

MARINE RECORD

ESTABLISHED 1878.

OL. XXIV, No. 20.

CLEVELAND--MAY 16, 1901--CHICAGO.

\$2.00 Per Year. 5c. Single Copy

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

PRESIDENT.

A. B. WOLVIN,

1ST VICE-PRESIDENT.

CAPT. J. G. KEITH,

SECRETARY.

CHARLES H. KEEP,

TREASURER.

GEORGE P. MCKAY,

COUNSEL.

HARVEY D. GOULDER,

EXECUTIVE AND FINANCE COMMITTEE.

JAMES CORRIGAN, Chairman,

Duluth.

Chicago.

Buffalo.

Cleveland.

Cleveland.

Cleveland.

COMMITTEE ON LEGISLATION.

GIBSON L. DOUGLAS, Chairman,

Buffalo.

COMMITTEE ON AIDS TO NAVIGATION.

GEORGE P. MCKAY, Chairman,

Cleveland.

LAKE CARRIERS' ASSOCIATION MEETING.

At a meeting of the Lake Carriers' Association held in the offices of Capt. J. C. Gilchrist, Cleveland, on Tuesday, Capt. George P. McKay, chairman of the committee on aids to navigation, was instructed to take charge of all matters referring to private lights. Capt. John Corrigan, of Cleveland, and Capt. J. W. Westcott, of Detroit, were appointed a committee to keep the masters of Lake Carriers' boats posted on the stage of water in the Detroit river.

No action was taken in regard to a schedule of wages, and the card that was adopted last fall will stand. Shipping masters will be appointed for all the ports that had shipping officers last year, and it was decided to add Conneaut to the list. The advisability of opening a channel through the west draw of the Superior street viaduct, Cleveland, was discussed, and all the local owners favored the plan. President Wolvin appointed a committee to look into the matter and if a favorable report is made, Director of Public Works, Salen will be urged to make the improvement.

SHAMROCK I BARRED OUT.

According to the deed of gift of the America's cup to the New York Yacht Club, it would appear that the Shamrock I cannot be substituted for the Shamrock II, in this year's contests for the America's cup. One clause of the deed of gift reads:

"No vessel which has been defeated in a match for this cup can be again selected by any club as its representative until after a contest for it by some other vessel has intervened, or until after the expiration of two years from the time of such defeat."

The necessary two years have not elapsed. The Columbia and the Shamrock I met October 16, 17 and 20, 1899, and the next series of races were scheduled, in the acceptance of the challenge, for August 20, 22 and 24 of this year, or a week later, if anything should happen to delay the challenger. Consequently, it seems the two-year condition cannot strictly be made available until after the next series of races.

THE Isthmian CANAL.

In agreeing to insert in the proposed isthmian canal treaty a provision establishing the neutrality of the projected waterway, Secretary Hay has taken action which meets with the full approval of Admiral Dewey and the majority of naval officers.

When told that the President would pledge the United

States to observe the principle of neutrality in the convention under negotiation, the admiral ejaculated:

"Splendid. More than a year ago I said that the canal should be neutral. I am more convinced today of the necessity of such action. Erection of fortifications would make the canal one of the prime objectives of our enemy's operations in time of war. Besides, their construction would entail enormous expense and necessitate constant expenditure to keep them manned and in proper condition. I see no necessity for them."

"The neutrality of the canal can be guaranteed by our fleet. The canal is to be a commercial waterway, and neutralization, therefore, will mean its preservation."

COST OF CANADIAN BUOYAGE

The expenditure in connection with the buoy service for the year ended June 30, 1900, was:

Province of Quebec, including port of Montreal.	\$30,527 61
Above Montreal including Ontario.	7,489 58
Nova Scotia.	11,067 28
New Brunswick.	9,390 82
British Columbia.	6,111 60
Prince Edward Island.	2,393 59

Total. \$66,980 48

In addition to the buoys for marking dangers, there are 11 gas buoys below Quebec and one spare buoy, also gas works and supply tanks, etc. Two gas buoys are maintained in Pelee Passage, Lake Erie, and three in Parry Sound, Ont. All of these buoys assist vessels at night by their light.

CONSOLIDATED COAL COMPANIES.

The Milwaukee Western Coal Co. is the name selected by the coal companies of Milwaukee whose prospective consolidation was reported some days ago. The capital stock of the company is \$2,000,000.

"I do not want the impression to go abroad," said H. M. Benjamin, "that this is going to be a trust of any sort. It is simply a consolidation of forces for economy in management. The firms in the consolidation are the Benjamin Coal Co., the Uhrig Co., R. P. Elmore Co., the F. R. Buell Co., and the George Eastman Co., and there will be no offices in Milwaukee except the one on Grand Ave. and perhaps a few city retail offices.

"The new company has a capital stock of \$2,000,000, in shares of \$100 apiece. The capital is all paid in, and there is not a cent of indebtedness, making this one of the largest and most stable coal companies in the country. We shall start in business June 1 under the new arrangement.

"Edward A. Uhrig, a live, wide awake young businessman, will be president. I shall not retire, but shall hold the position of chairman of the Board of Directors and the Executive Committee. F. R. Buell will be secretary, a position his qualifications make him particularly fitted for. Eltinge Elmore will be first vice-president, with duties that are still to be outlined. Lawrence Demmer, second vice-president and superintendent, assisted by George Eastman, will have charge of the eleven docks of the company and the machinery, teams, unloading, laborers and delivery. C. W. Moody will be treasurer. We expect to retain all the present employees.

"There will be 1,000,000 tons of coal on hand to start with, and we shall represent four of the largest coal companies of the country, the Delaware-Lackawanna, Delaware-Hudson, W. L. Scott Co. of Erie, Pa., and the Pocahontas Coal Co., besides others.

"It would be nonsense to call this a trust, with the Philadelphia, Reading, Coxe Bros., Northwestern Fuel, Lehigh Valley, Ohio Coal and Whitnall & Rademaker companies not included in the consolidation.

A NEW COMPASS DIAL.

The Bureau of Equipment of the United States Navy Department has recently sent to officers of the Navy, and to mariners of repute, a new compass card devised by Lieut. Commander S. W. B. Diehl, U. S. N., Superintendent of Compasses. The changes in the compass card proposed by Lieutenant Commander Diehl, will, it is claimed, greatly simplify sailing directions, and by its adoption all work in connection with the compass will be facilitated. The card now in use contains both degrees and points, but the new card will contain simply the degrees. The conversion of one into the other is of course, a natural result of the presence of both, but it is claimed that the presence of both is not by any means a necessity. Accuracy requires expression of courses, bearings, and compass errors in degrees, and not in points, the use of which, the officer says, is but a duplication of the work. The circumference of the proposed card is divided into the usual 360 degrees marked continuously to the right, from zero at north to 90° at east, 180° at south, 270° at west, and 360° at north. It is believed by officers of the Navy interested in the new card that the proposed markings would result in far greater accuracy in navigation to its relation to the compass. They say that complaints of error in the application of deviation to compass courses would be lessened, and courses could be laid in degrees and hence more accurately noted, as the approximate course of south-west by west 1/4 west "a little westerly," for example, would be replaced by the exact course of 240°. Chances of error in the application of the deviation to compass courses would be lessened. Conversion of points into degrees and the reverse would be eliminated from the problem. Boxing the compass would be a matter of a few minutes' instruction to the layman of average intelligence. Sailing directions would be simplified. All work in relation to the compass would be facilitated.

METEOROLOGICAL.

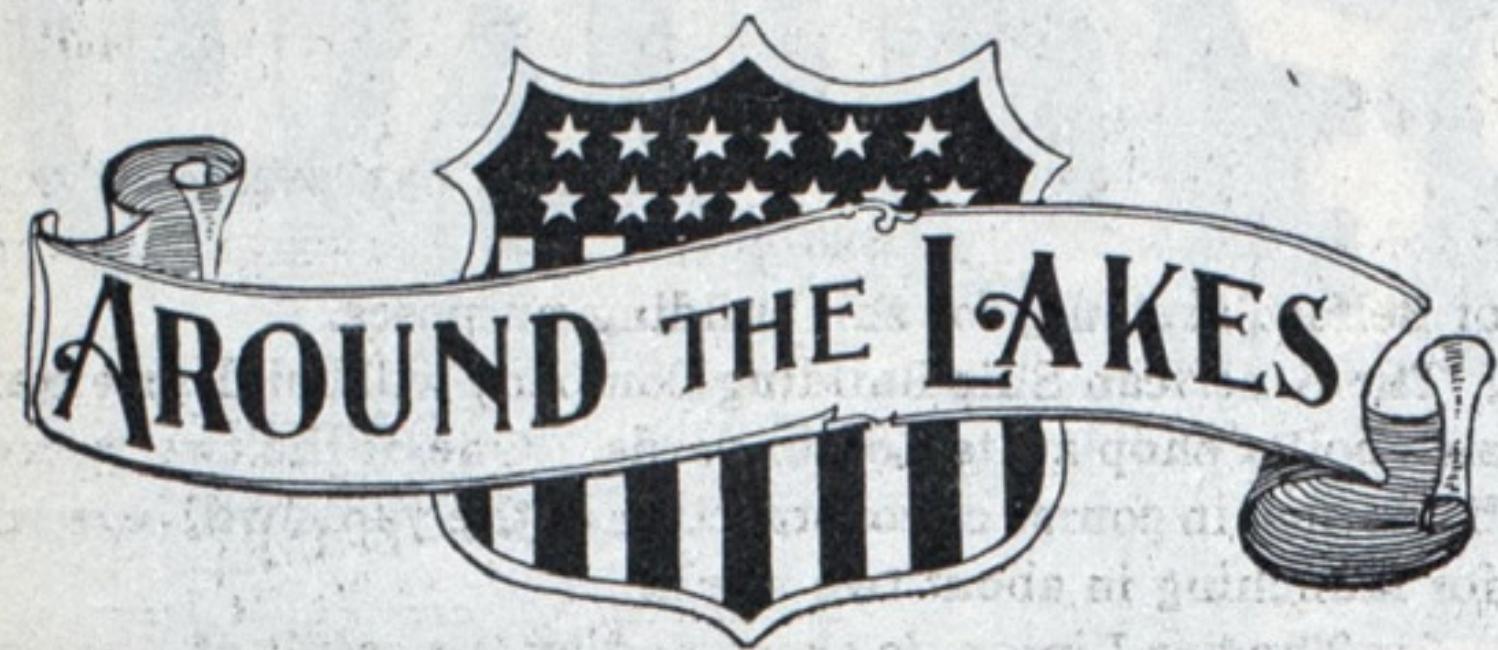
To make accurate local forecasts of the weather conditions for 48 hours in advance is a scientific study of no mean proportions, and even with all the possible data procurable, approximate predictions may come within the realms of the wonderful, at the same time, a general prognostication may be issued to cover a certain period of time over parallels of latitude where weather conditions have been closely observed for a cycle of years.

In this connection the Liverpool Journal of Commerce, of the 4th inst., ventures a season's forecast under the following general assumption of the correctness of the theory owing to experiences in the past. The Journal says:

"For the benefit or otherwise of trade in general, and for the interests of agriculture, our weather expert, whose prognostications continue amazingly accurate, is of the opinion that the summer of 1901 will be rather too dry. Of course, he says, we may expect the usual summer thunderstorms will appear from time to time, and as we are certain to pass through periods of great heat, some of these phenomena will, at least, approach the severity of tropical storms. No dates are given.

The forecast is based altogether on the movements of the cyclonic disturbances and the positions taken up by the anti-cyclonic systems during the past few months, which in years gone by have led on to such a summer as that depicted above."

Even a generalization such as the foregoing, when based on the study of actual and closely recorded past conditions, is of considerable value to the majority of interests affected by a predominating temperature in brisk industrial and commercial latitudes and is of marked importance to the student of meteorology.



CLEVELAND.

Special Correspondence to The Marine Record.

Capt. A. W. Shepard is in charge of the steamer Olympia. The Frontenac arrived from Escanaba on Wednesday with the first ore cargo of the season.

Capt. Wolvin, Duluth, J. W. Westcott, Detroit, and Capt. Maytham, Buffalo, visited here this week.

Bids for the U. S. Marine hospital supplies for the year are asked to be sent in up to May 23rd. Dr. W. J. Pettus is in charge of this station.

The Craig Ship Building Co., Toledo, will launch, within a few days, the steamer Lakeside, built to the order of the Sandusky and Island Steamboat Co.

Capt. Holmes did not appear when the case was recently called in the United States court on the charge of loss of life through the foundering of the sail yacht Idler, on Lake Erie.

The Standard Contracting Co. has purchased the tug Elmer of Alonzo J. Fox, of Manistique, and the tug was brought to this port Tuesday by Captain Edward Lynn, of Chicago.

Capt. Samuel Mitchell, of Negaunee, Mich., visited here with his family this week. The steel steamer Samuel Mitchell was named in honor of Capt. Mitchell, who is a well known iron ore mining capitalist of northern Michigan.

Instead of anything lower than the 40 cent rate on coal, a number of owners state that they will now hold their tonnage for 45 cents. The day is past when the down bound freight alone has to stand all expenses, and Milwaukee is asked 50 cents.

President Wolvin, of the Lake Carriers' Association, appointed H. Coulby, Capt. W. C. Richardson and Capt. Geo. P. McKay a committee to take up the question of opening a channel in the west draw of the Superior street viaduct with the Director of Public Works.

The engineers have opened negotiations with some of the vessel firms. What will be done is not yet known, but they have offered Capt. John Mitchell virtually the same terms as those upon which the Pittsburg Steamship Co. settled. This matter is still under consideration. Nothing has been done about the Bradley fleet.

The car ferry steamer Shenango should have cleared from Conneaut early on Wednesday. At noon four firemen asked for an increase in pay from \$30 to \$45 a month. Capt. R. R. McLeod conferred with the men, but reached no agreement. The Shenango has a cargo of 200 tons of steel rails for the Grand Trunk railway and 400 tons of coal.

About twenty-five freight handlers, employed by the Detroit & Cleveland Navigation Co., struck on Wednesday for an increase in wages. The men were paid at the rate of \$1.60 a day, and 25 cents an hour for overtime. They did not make any specific demand, and new men were hired in their places. The steamer City of Cleveland was loaded and left on time.

A meeting of the executive committee of the Great Lakes Towing Co. was held here on Wednesday afternoon, but only routine business was transacted. Capt. Ed Smith, of Buffalo, Mr. W. E. Fitzgerald, of Milwaukee, and Mr. L. M. Bowers, who represented the Rockefeller interests, attended the meeting. At a meeting in February the dividend on the preferred stock was suspended, but no action was taken in the matter at yesterday's meeting.

The Steel Trust made the season rate at 80 cents from the head of the lakes and had options on considerable tonnage to run on to the end of November at that figure, now they chop an even 10 cents off and quote the rates at 70, 60 and 50 cents from Duluth, Marquette and Escanaba, chartering ahead to the middle of October. The former rates are held for very firmly. Some tonnage was placed at 35 cents on coal to the head of the lakes but 40 cents is quoted as the going rate.

Capt. J. E. Rogers, of Detroit, inspector of the life-saving service, and Supt. E. E. Chapman, of Buffalo, inspected the local station on Wednesday. The members of the crew were put through the drill and the officials were well pleased with Capt. Motley's men. Capt. Rogers and Supt. Chapman left

for Fairport. D. K. Mulcahy was selected as a member of the Pan-American crew. He will return here at the close of the exposition. Capt. Motley will appoint a man to fill his place in a few days.

If the Standard Contracting Co., are as dilatory in carrying out their contract to dig the canal at Port Huron, as they are in dredging the river here it will take another decade to complete the flushing sewer in the Michigan town. The Director of Public Works has notified the contracting company, that unless they shape as if intending to do something he will place dredging apparatus on the river himself, too many complaints are being received relative to the shoal condition of the part of the river for which this firm took the contract to dredge.

The strike of the marine engineers on the steamers of the Steel Trust, which threatened to settle down into a long fight, was settled on Monday. On the nine steamers of the fleet which have water tube boilers, comprising nearly all of the boats of the American Steel and Wire fleet, an additional engineer is to be hired. On all other steamers with four boilers, a handy man will be engaged in the engine room with wages of \$50 per month. The union at first demanded the extra engineer on all of the four-boiler steamers. The non-union men who were hired during the strike will be kept in their positions if they prove capable. The union men at first insisted that all non-union men be discharged.

Major Dan C. Kingman, Corps of Engineers, U. S. A., now in charge of the conservancy and improvement of rivers and harbors within this district, vice Col. Mansfield, is quoted in a recent interview anent the Erie canal as saying: "A barge canal, if it is truly such, means that special boats must be built for it. These boats do not have to be built like ships, because they are not used as ships are. Give them plenty of beam and a moderate draft of water, and they are all right. The only thing that ought to be done to the present canal to permit them to carry all the grain the shippers could desire to move would be an enlargement of the locks. I don't see the necessity of having that barge canal constructed to suit small lake boats, because it would be too expensive. If we want to accommodate lake boats, the thing to do is to build such a waterway as would allow the lake shipbuilders to build tonnage that can go out on the ocean and compete with the products of the Clyde. If the United States wants to build such a canal, it ought to use the Oswego river from Lake Ontario, rather than the Erie canal, for there the route would be shorter, and the end accomplished sooner than through the present canal." Other prominent men state that the bottoms best suited for lake, canal and Atlantic work, are, and will always be of a different type. It is altogether another question with such a canal as the Suez, where there are no locks, or even the level stretch of the Manchester ship canal, but from the Lakes to the Hudson other conditions are found.

DETROIT.

Special Correspondence to The Marine Record.

The wrecker Saginaw was ordered to Bar Point on Monday to release the Anchor Liner Conestoga aground there bound down.

The small steamer City of Marquette, is for sale here at an upset price of \$25,000. She is owned by John M. Longyear, Marquette.

The launching of the Gilchrist will complete the work of the West Bay City shipyard for the season and will take place on Wednesday. Manager Wallace will return to Cleveland as soon as the work is completed.

The steamer North Star is in dry dock with nine plates broken as a result of the boat scraping a boulder off Colchester last week in the fog. The bottom plates are broken a distance of about eighty feet. Repairs will take a few days longer and cost about \$5,000.

The Thompson Steamboat Line will probably run the steamer City of Holland between Detroit and Buffalo during July and August for the benefit of Pan-American visitors. The Holland will make weekly excursions, remaining at Buffalo five days. She is the boat recently purchased from the Holland & Chicago Line. The Holland has forty-two staterooms.

Shipping—Contract for Cargo Space—Connecting Lines.—An engagement of cargo space from a steamship line for a shipment of cotton at an agreed rate of freight, made by a company operating a connecting line, constitutes a contract, which binds the latter to furnish the cargo or respond in damages, although it was in fact made in behalf of a third party intending to make a through shipment over both lines, where such fact was not disclosed. *Baltimore Steam-Packet Co. vs. Patterson et al.*, 106 Fed. Rep. (U. S.) 736.

DULUTH-SUPERIOR.

Special Correspondence to the Marine Record.

Rates rule this week at 2½ cents on wheat and 2 cents on corn. Lumber rates seem steady at \$2.25 although vessels want another 25 cents.

The old dry dock of the Superior Ship Building Co. will be abandoned this summer, as it was seriously damaged during the winter. The new dock alone will be used.

Messrs. Gooding and York, of Marquette, Mich., U. S. Local Inspectors of Steamboats, are holding an inquiry into the loss of life brought about through the burning of the passenger steamer Bon Voyage, owned by the White Line Trans. Co., Capt. Singer, manager.

Much regret is expressed here at the loss of the passenger steamer Bon Voyage and the lives that were lost through her taking fire. Three generations of the Altman family, grandmother, mother and daughters, were drowned in their efforts to reach shore after the steamer was beached.

The steamer Charles R. Van Hise, which was built at the W. Superior ship yards last year, has been enrolled at the Duluth customs office, with A. B. Wolvin, as managing owner. The boat belongs to the Pittsburg Steamship Co. She is 458 feet long, 50 in breadth and 25 in depth, with a gross tonnage of 5,117 and net 3,673.

A new company has been incorporated by Capt. C. S. Barker, H. H. Grace and C. A. Pelletier. This company is to be known as the Superior Dredging Co. There is some talk about the formation of this company simply being a step toward the uniting with the other companies on the lakes in the dredging trust. However, this is denied by the incorporators, and they affirm that the consolidation with the other companies is not intended. The dredge trust is being promoted by J. A. Smith, of Cleveland. He is reported to have privately visited all the dredging concerns on the lakes, and is said to have succeeded so well that the trust has almost absolute control over the entire dredging interests in the field.

The head of the lakes can lay claim to holding as residents some of the most talented men in marine affairs that there are on fresh water, as witness, Capt. A. B. Wolvin, manager of the 112 vessels in the fleet of the Pittsburg Steamship Co. also president of the Lake Carriers' Association and with probably a dozen other honors to his credit. The shipyard and offices of the American Shipbuilding Co. at West Superior shows some high classed talent and skill, and let it not be forgotten that we have still the redoubtable Capt. Alex. McDougall of "whaleback" fame in particular, still with us. In the line of scholarly, and practical as well as theoretical navigational qualities of a high order, we have Capt. Frank Henrich of the branch hydrographic office, Duluth, who is in possession of a dual experience of service both on fresh and salt water. Then as regards a consulting and practical shipbuilder and engineer but few hold the enviable and markedly qualifying record credited to Capt. Joseph Kidd, of Duluth. Oh yes! the head of the lakes is pretty well heeled, thank you, nor need we send outside for experts of the highest skill and professional ability in matters relating to affairs maritime, scientific, practical or commercial.

When the engineers abandoned the machinery, after the burning steamer Bon Voyage had struck the beach, the engines were left working ahead at full speed. One of the Altman sisters, who was clinging to a board, was washed out into the lake by the current from the wheel and was drowned. The wreck of the steamer lies in shallow water less than half a mile from the hull of the steamer B. W. Arnold which, was also beached in flames late in the fall of 1896. Had the tug Muriel not been lying at Houghton, the loss of life from the Bon Voyage would have been much greater. The life-saving station is a quarter of a mile inland from the mouth of the canal, and the life-savers were first notified by whistles from the Muriel, which started for the burning boat at full speed, and her crew saved many persons from the water. The life-savers followed, later on the tugs Meldrum and Lee. The present site of the station is cut off from view of the lake by high hills. The Government condemned the land on the lake front several years ago as a site for a new station, and forcibly ejected the previous owner, a homesteader of the name Smith. The new station is yet to come. Thomas Appleton, was sent several weeks ago to superintend the construction of a new station, but he was transferred to New York last week and the life-saving station yet remains inland.

Why did the lobster get red? Because it saw the salad dressing!—Syren and Shipping. Then the catfish mewed.

CHICAGO.

Special Correspondence to The Marine Record.

The self-propelling coal lighter, which is to be used at Conneaut, O., was launched at the Milwaukee shipyard on Tuesday. The machinery will be installed at once.

Shippers offering $1\frac{3}{4}$ to $1\frac{1}{2}$ cents on wheat, but vessels are holding for the flat 2 cent rate. There is an indication that the shaded rate will be accepted, if it has not already, and yet there is a good demand for tonnage.

Wheat to Buffalo ranged the early part of the week at $1\frac{1}{2}$ to 2 cents. The South branch of the river is not cared for from a loading standpoint, on account of having to cross the Washington street tunnel, where loaded vessels are liable to ground. Milwaukee has chartered for $1\frac{3}{4}$ cents on wheat to Midland.

The steamer Northeastern will clear this week for London, and the Northtown, the 4th of the fleet, will closely follow her. General Manager Purdy received news that the Northwestern, which grounded in the St. Lawrence, received no damage, and that she will proceed on to Liverpool after loading several hundred tons more cargo at Montreal.

The passenger and freight steamer Easton, which is coming to the lakes from Baltimore, to ply between Chicago and South Haven, in the Williams line, was sold to the late H. W. Williams, by the Baltimore, Chesapeake & Atlantic Railway Co. Her keel length is 154 feet, beam 30 feet, and depth of hold 9 feet 7 inches; gross measurement 460 tons; nominal horse-power 650. She was built at Baltimore in 1896.

The Chicago lumber market is quiet for this period of the season. Lake Superior cargoes are commanding \$2.50 on dry pine, and it is probable that this figure will go up before the close of the week. It is noticed that the sailing vessels that went to Georgian Bay are having little or no trouble in getting up-bound cargoes of cedar posts and ties. Six cents is offered for ties from Escanaba, but vessel owners are holding out for a half cent increase.

Stewards as well as others must be very guarded in throwing anything over the side while laying in Chicago river. On Tuesday Wm. Senior, steward of the steamer Majestic, was arrested on a charge of depositing refuse in the Chicago river, in violation of Sections 1021 of the city ordinance. Representatives of the Drainage Board will be in court to prosecute the case. Since the opening of the drainage canal the drainage officials have taken measures to enforce the ordinance. Special officers have been detailed along both branches of the river to watch for and arrest all offenders. According to the officials a number of arrests have already been made. In most cases the offender has been discharged with a warning.

BUFFALO.

Special Correspondence to The Marine Record.

When vessels are changing ports for coal cargoes chartering can not be said to be brisk, and such is the latest condition here.

F. ed Rogers, for some years engineer of the Lehigh Valley Transportation Co., has been appointed to the same position with the Consolidated Lehigh & Union Co.

Coal chartering is fairly brisk at 40 cents, Lakes Michigan or Superior, 50 cents up the South branch Chicago river, also to minor ports, such as Racine and Waukegan. Port Huron also runs to 40 cents and Toledo 30 cents.

We are fast getting up to the million bushels per day in the receipt of grain, and there is no detention even at that. Vessels, towing and elevators are all working to the best advantage, there is also a good supply of railroad cars. The rush of the first cargoes for the season is being handled in first class shape, and the average cargoes are turning out well.

Becoming weary or disgusted at the lack of dredging, the Reading interests employed a dredge to deepen the channel to their docks where the city is supposed to do the work. The experience of the Wilkesbarre lying grounded at the entrance to the port on her maiden trip for the want of a little dredging was a disgrace to the city fathers in this good year of our exposition.

The new steel steamer George A. Flagg, arrived here on Wednesday, with what is said to be the most valuable cargo ever brought down from Lake Superior. It consists of 2,900 tons of copper ore from Lake Linden, the estimated value of which is \$800,000. It is consigned to the smelter at Black Rock. The Flagg lightered 200 tons of her cargo before attempting to proceed down the river.

At the meeting of the trustees of the Buffalo Merchants' Exchange, held in the board room, Wednesday, it was announced that Secretary C. H. Keep had been prevailed upon to hold his resignation in abeyance until next fall. This news was very gratifying not only to the trustees, but also to the members of the Exchange. Mr. Keep has the reins of the Pan-American Exposition campaign of the Merchants' Exchange well in hand, and it was felt that his retirement at this period would greatly retard things. The pressure was too strong for the secretary to resist, and he finally decided to stay. Until his final resignation Mr. Keep, however, will be practically master of his own time, and will be privileged to come and go as personal business matters may dictate. No resolution looking to the appointment of his successor was adopted and no applications, if there were any before the trustees, were acted upon.

KINGSTON, ONT.

Special Correspondence to The Marine Record.

On Sunday the palatial steamer New York, of the Folger fleet, left for Buffalo. She has been engaged by the International Navigation Co., and will ply this season between Chippewa and Buffalo.

The local officials of the Montreal Transportation Co. report that during the ice jam in the St. Clair river, the propellers of their big steamers Rosemount and Bannockburn were badly damaged and both anchors of the barge Melrose were lost.

Messrs. Chestnut and Moulthers, Buffalo, U. S. steamboat inspectors, are in the city inspecting all local steamers that call at American ports.

Negotiations to remove the locomotive works to Quebec are under way between the mayor and prominent citizens of Quebec and the Hon. W. M. Harty, M. P., of this city. It is stated that Quebec would give a big bonus for the works, which are now employing 300 men and have large contracts on hand from the Government. Many citizens regard the scheme as a means to draw out a bonus from the Kingston city council.

The Donnelly Wrecking & Salvage Co. are at Cardinal releasing the steamer Porter and barges, laden with coal, and on their way from Charlotte to Montreal which went ashore on Saturday. The Porter is owned by Mr. R. Hepburn, of Picton. She is insured with a Toronto firm.

Capt. Thomas Donnelly is at Three Rivers adjusting a marine insurance loss on a stranded vessel.

The whaleback steamer A. D. Thomson, Capt. Leroy A. Rand, with her whaleback consorts 110, Capt. Frank Brown, and 127, Capt. A. Siljender, which sailed from Boston on May 4th, arrived in Montreal on Tuesday. Capt. Rand reports a fine passage, with favorable weather and a smooth sea. These vessels came from the Great Lakes last fall, and have been trading on the Atlantic coast all winter, and are now returning west to engage in freighting on the lakes.

The steamship Meteor passed down the canals this week. She is a new vessel, 1,563 tons, and is making her maiden trip. She was built at Toledo, O., and is destined for San Francisco, where she will go into active service. En route to San Francisco, she will call at Baltimore. The Meteor is a trim looking craft and is commanded by Capt. J. Ahlstrom.

The steel steamship Northwestern from Chicago to Liverpool collided with Gilbert's dredge between Galoup and Rapid Du Plat rapids Sunday last and went ashore. The dredge had been working in the channel off Sparrow Hawk's Point. The Northwestern attempted to take the north side of the channel but the current carried her against the dredge, tearing through her false work. The Northwestern went ashore on the Canadian side and the dredge drifted onto a shoal. The steamship Meteor, passed through safely. The steam barge L. S. Porter is aground at the head of the lock of Cardinal canal. Her three barges broke a tow line and drifted two miles down river, stranding on Glenford shoal.

LETTERS AT DETROIT MARINE POST OFFICE.

MAY 15, 1900.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Bowen, W. J. McArthur, H.
Benkie, Chas., Albright O'Dell, Geo., 2
Crouch, Mrs. F. E., Hennepin Rhodes, Albert C.
Connor, Alf., Lindsay Vorden, H. C., Minneapolis
Glass, Dan F. B. DICKERSON, P. M.

FLOTSAM, JETSAM AND LAGAN.

According to the usual custom the Welland canal will be closed on Sundays from 6 a. m. to 9 p. m.

The United States Steel Corporation, has secured a contract for 20,000 tons of steel plates from Harland and Wolff, of Belfast, Ireland, for shipbuilding purposes.

The American Ship Building Company will build an extensive boiler shop at its Lorain yards. One of the two Peevey boats now in course of construction at the yards will be ready for launching in about two weeks.

Sir Thomas Lipton is chagrined by the result of the last race. But he is confident the Shamrock II is the better boat, and thoroughly believes something has gone wrong. He is anxious to see her in dry dock.

According to the MARINE RECORD, Cleveland, from a western point of view, Montreal should be the national port of Canada; from an eastern point of view Quebec would have the call. It is westward that the tide of empire takes its way.—The Gazette, Montreal.

The body of Mrs. Lea H. Altman, one of the victims of the Bon Voyage disaster, was discovered near the Calumet water works. Mr. Altman has retained the law firm of Gray Haire and Rice, of Houghton, and will bring suit for heavy damages against the White Line Transportation Co. for the loss of his family.

Capt. Bolt, a master mariner of Newcastle, England, has invented a new form of deck-house, or life-saving cabin, which, says a London exchange, in cases of sudden foundings from collisions or wreckage, will, with the turn of a wheel, float off the doomed vessel in its entirety and ride the waters like any other raft.

The insurance on the cargo of the wrecked steamer Rio de Janeiro, amounting to \$900,000, has been paid. It is not known how much insurance was carried on the vessel. The collector at Honolulu sent over by the Rio \$30,000 in treasure and it was not insured. The steamship company also carried many thousands in its safe on which there was no insurance. The most valuable portion of the cargo was raw silk.

Inspectors York and Gooding are still at work on the investigation relative to the burning of the steamer Bon Voyage off Houghton. In the testimony of Capt. Foley, he denied the rumor that the steamer had been on fire once or twice during the last trip. He says that the pipes grew hot, but that there was no fire. He also said that the vessel was dry and that the fire burned so fiercely and gained such headway that nothing could be done. The bodies of Mrs. Leah Sharpe and B. Altman have been recovered.

The Duluth News-Tribune says this week the present rate for wheat is $2\frac{1}{8}$ to $2\frac{1}{4}$ c. and the larger class of boats makes good money at these figures. The smaller boats can also make a little at $2\frac{1}{4}$, but at present rates for fuel and wages, it is not a really attractive rate. It is considered that it will be better for all interested that the opening has been late, for what with the coming out of a large amount of new boat tonnage, and the shortest freight tonnage on account of last fall's poor crops, the outlook was decidedly gloomy and discouraging.

The yacht Canadian, being built at Hamilton for the trial races for the Canada's cup challenger, is a decided novelty. Her like has never been seen on fresh water. She might be called a scow, only she has sharp ends, a deep keel and a concave bottom instead of a little dead rise. Her sides slope downward for about four feet and then, curving upward, run in toward her fin. Forward and aft of the fin the boat's bottom is nearly flat, being a trifle hollowed. This gives her square bilges from stem to transom. She will be rigged as a jib and mainsail sloop. Her sail area will probably be 1,400 feet. Rev. G. J. O'Brien, her designer, is positive she will be very speedy and has hopes that she may bring back the cup.

Some nice insurance questions have arisen over the two strandings of the steamer Ottawa, of the Canada Atlantic Line, recently. When the Ottawa fetched up on Point Sable, near Ludington, Mich., a part of her insurance was changed from one set of companies to another at noon that day, and the underwriters whose policies came into force were feeling quite glad that they had escaped, next day the Ottawa landed again on the beach on Bois Blanc Island in the Straits. Now the question comes up that if the steamer was damaged to the extent of \$10,000 or \$15,000 who is going to prove which of the two strandings caused the greatest damage? The first set of underwriters don't want to pay for damages incurred through the second stranding, and vice versa.

THE LAW OF MAGNETISM.

A SHORT AND CONCISE LESSON ON MAGNETISM
AS IT AFFECTS THE MARINER'S COMPASS.

BY CLARENCE E. LONG, MILWAUKEE.

(Arranged for Masters and Pilots on the Great Lakes.)

CHAPTER VI.

TO MARK THE POLES OR ENDS OF A MAGNET.

To tell which end is the north pole and which end is the south pole of a magnet. If you present one end (it makes no difference which end) of a bar magnet to the north point of the compass needle, an attraction takes place, then that end of the magnet must be of an opposite name to that end of the compass needle attracted, or a south or blue pole. If repulsion took place under the same conditions, that is, if the north end of the compass needle was repelled, or driven away from the magnet, the two poles must be like in name, or a north or red pole. Just try this at the first opportunity. This is the manner in which magnets are marked and painted. Now, to prove that you have marked the magnet correctly, just fasten a piece of cord to the magnet's center of gravity, or nearly so, and hang it up on shore in a place free from local attraction, and when it ceases vibrating it will come to rest in a north and south direction. The end you marked north should point in the direction of north and the end marked south, toward the south. Try it. You can likewise prove the principles of the dipping needle in the same manner. To make a dipping needle for experimental purposes: Take a fine piece of steel, say 2 1-2 inches long by 1-4 of an inch wide and 1-64 of an inch thick. Have both ends drawn to a point, as nearly equal as possible, then bore a small hole, large enough for a thread, through its center of gravity, or as near to it as possible, then hang the needle up by the thread. If you have the exact center of gravity the needle will remain in equilibrium (at a balance) in any position in which it may be placed. If the needle does not balance, file off from the heavy end until it does. After accomplishing this, then have the needle tempered and magnetized. If it then be suspended and be free to assume any direction, it will no longer be indifferent, but will place itself in a particular vertical plane called the magnetic meridian, and will take a particular direction in that plane. Whatever this angle makes with the horizontal plane will be the amount of dip at the place of observation, and a line through the poles at that time is called the line of force at that place. Before suspending the needle by the thread after magnetization, mark its ends according to the foregoing rule. After suspension the north end will be found to dip toward the earth.

HOW TO MAKE MAGNETS.

Take a good quality of bar steel, say 3-4 of an inch wide by 3-16 of an inch thick and 8 or 10 inches in length. Have the extremities for about two inches tempered glass hard, and then magnetize it by placing it on top of a dynamo and leaving it there ten or fifteen minutes. Place it so that about half of its length projects over the edge of the dynamo. The stronger the current the stronger the magnet. Magnetizing them with an electrical coil is by far the best, but the above method will answer for all ordinary purposes.

ODDS AND ENDS.

Compasses poorly placed are of course more affected by the iron in the ship than those well placed. In some iron and steel vessels the compass is affected so as to make it practically useless on some headings.

Sometimes large and perplexing deviations are caused by the magnetism induced in vertical soft iron near the compass, and if so it must be corrected by vertical wrought iron bars.

A table of deviations is as necessary after adjustment as before, and the error of the compass should be frequently found and the table corrected.

It has been sometimes supposed that fogs and peculiar states of the atmosphere cause magnetic disturbance and affect the compass needle. There is, however, no ground for this supposition. Electric storms are liable to disturb the compass needle, and lightning has the occasional effect of rendering the needle useless; the aurora borealis also affects the compass needle, but there is no authority that its effect is felt on the lakes.

Attempts have been made to intercept or screen the action of the ship's magnetism in causing deviation of the compass. No effective magnetic screen has yet been produced which is not destructive of the usefulness of the compass for the pur-

pose of navigation, and it may be stated with confidence that there never will be. If they did succeed in insulating the needle from the magnetism of the ship, we should by the same means intercept the magnetism of the earth, and thus the compass would be rendered absolutely useless. Even if such a medium did exist it would be of no value as a screen.

A FEW IMPORTANT CAUTIONS.

Keep all iron and steel as far from your compasses as possible. Bear in mind that magnetic influence will not be stopped by placing anything between the compass and the iron or steel. It will pass through a stone wall. See that the magnets once placed by the adjuster, are let severely alone. They should never be touched, unless you know, of course, what you are changing them for.

Make it a cast iron rule to ascertain the deviation of the compass at every opportunity. Remember, that however well a compass may be adjusted, observations for deviation should be made just the same, as the magnetism in the boat is liable to slight changes at any time, which can only be ascertained by comparisons with azimuths.

TO TELL A GOOD COMPASS.

A simple test for a compass is to place it in position, noting the reading thereof, and with a pocket-knife, or piece of steel, deflect the needle, remove the attraction quickly, and note the time it takes to come to rest at the exact point it started from. If the card is very slow in coming to rest, or does not return to the exact point it started from, something is wrong with the compass. Either the magnets are weak, the weight too great on the point of support, causing friction, or the jewel cap may be defective. In purchasing a compass, always give it this test. Remember, the compass that will show the quickest number of vibrations in a given number of seconds is the best instrument for any and all purposes.

VARIATION OF THE COMPASS.

"Variation of the Compass," is the term used exclusively to denote the correction of the compass (not compass error) due to the earth's magnetism, arising from the fact that the magnetic north and south poles of the earth do not coincide with the true or geographical poles. Variation may be regarded as the angle measured at the place of the observer, between the earth's nearest true and magnetic poles. A compass needle, perfectly free from the effects of iron or other magnetic substance, in obedience to the earth's influence will rest in the plane of the magnetic meridian. It is also defined as the angle between the north and south line of the card and the correct magnetic north and south line. Variation, unlike deviation, affects every point of the compass the same amount when in any one position upon the earth's surface. In compass compensation the variation, of course, is never adjusted, as it is external to the vessel, and of different amount and name at different places. Variation is always to be found on the chart, and it is always the same at the same place, with the exception of a small annual increase or decrease, usually from 3 to 5 seconds.

DEVIATION OF THE COMPASS.

"Deviation of the Compass," is the term used exclusively to denote the correction of the compass, due to the attraction of the iron of the ship, in her equipment, boiler, engine, funnels, etc., or in her cargo. It is entirely independent of the variation, being produced by objects within the ship.

LOCAL ATTRACTIONS.

"Local Attraction," is the term used to express the disturbance of the compass by magnetic influence existing outside of the ship, such as iron cranes, water pipes or pillars, steel and iron work, ore dock, steel elevators, etc., etc., as may be found in docks and other confined water spaces; also the magnetic attraction of one iron vessel on the compass of another, should be termed "local attraction." It will be understood that, as its name implies, the disturbing quantity is purely local, and that as the vessel gets outside and away this disturbance has no effect whatever on the compass. Thus we have the three terms "Variation of the Compass," "Deviation of the Compass," and "Local Attraction," in a nutshell.

WRONG EXPRESSIONS.

Some persons use the terms variation and deviation as meaning one and the same thing, but the well-informed sailor makes a great distinction between the two for the reason that variation is caused wholly by the earth's magnetism, and the deviation by the iron in the ship. Deviation is often mixed up with local attraction, and vice versa, the two expressions being used indifferently to mean the same thing. This is wrong as they are entirely distinct. The first named is due to causes within the ship herself; the latter to out-

side influences. Variation, deviation and local attraction, are as distinct from one another as black is from white, and each arises from an entirely different cause. They should never be mixed up with one another in this manner.

(To be continued.)

A NEW BRITISH BUILT STEAMER.

A few particulars regarding a British built steamer just completed will be found of interest to many of our readers. The principal hull dimensions are—length, 452 feet; breadth, 54 feet; and depth, 35 feet 3 inches. The vessel has been specially designed as a general cargo boat and to the requirements for a passenger certificate. The Peleus, of the Holt line, is specially adapted for carrying the bulky packages of the China trade, the main hatch pillars having been dispensed with and box girders substituted, with the hatch coamings forming part of same. The system of construction is carried out in a modified degree in the remaining portions of the vessel. The stern-post and rudder are a special feature, the dead-wood at the foot of the stern-post being completely cut away, thus allowing a free run of water to the propeller. A wrought steel tube forms the stern-post, from which the rudder is hung, and the arch of the remaining portion of the stern frame consists of a steel plate of a "U" section. The rudder is of the balanced type, and is entirely constructed of plates and angles, excepting the upper portion of the stock, which is a forging. The deck erections consist of poop, topgallant forecastle and a long bridge, on which are placed deck-houses for the accommodation of captain, officers and engineers, and the crew are berthed under the forecastle. The deck equipment includes 17 steam winches and 25 derricks, one being capable of lifting 35 tons. The engines are a powerful set of the triple-expansion type, with the most modern improvements in auxiliaries. Steam is supplied to the engines at a pressure of 190 pounds from two large double-ended boilers, fitted with a system of forced draught, having closed stokeholes. The trials on the measured mile proved very satisfactory, an average of 14 knots being attained.

EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, report the condition of the eastern freight market as follows:

Our freight market continues in the same unsatisfactory condition and there are no new features to report. Grain chartering has been restricted owing to the fluctuation in the price of cereals together with the scarcity of corn at the seaboard, which has prevented shippers from effecting new business. The majority of the steamers recently seeking business on this coast have finally been diverted to the Gulf for timber or to the British Provinces for deals, and in some instances an advance on previous rates has been secured. General cargo business from the Gulf continues practically at a standstill, whilst from the Atlantic cotton ports the requirements are also very limited. The export of coal to the Mediterranean continues neglected for the time being, but a fixture has just been made to Rio Janeiro and there are further inquiries of a similar nature.

In regard to sail tonnage we have positively nothing new of interest to report, and can only repeat that the market continues firm, but with very little activity. Rates remain unchanged.

CASUALTIES.

The crew of the schooner Narragansett, abandoned in Lake Huron, reached Harbor Beach in safety. The Narragansett was bound from Detour to Port Huron for repairs and had no cargo. In the brisk winds Sunday the vessel waterlogged and the crew were forced to take to the boats when twelve miles off Point Aux Barques. That was three o'clock Monday morning, and they were in the wooden yawl boat for over twenty-four hours. It is thought the schooner sank not long after being abandoned. She was an old schooner, having been built in 1861. Her last owner was John Leisch, of Milwaukee.

Capt. Kean, of the steamer Advance, reports coming across the schooner Narragansett, of Milwaukee, in the middle of Lake Huron, twenty-five miles due east of Point Aux Barques. The crew had abandoned her and she was full of water. He put three of his men on board and towed her towards Goderich for about three hours, when she suddenly foundered eleven miles northwest of Goderich.

The wooden passenger steamer Bon Voyage, Duluth, on fire and beached near Houghton, Mich., Lake Superior, Friday, May 10. One family, being all the women passengers, were drowned.

MULTIPLE-CYLINDER ENGINES.

The author compares the advantages and disadvantages of expanding steam in more than one cylinder, as compared with expansion in a single cylinder. When steam engines were first employed on a practical scale to drive industrial works, the system of expanding the steam in two cylinders was introduced, though the object to be obtained in so doing was not fully appreciated. As the engines in use at that time were beam engines, one of the main reasons put forward was that it gave a more regular turning effort than when a single cylinder was used. It seems, however, looking at the types of engines which followed these, that an effort was made to obtain a wide range of expansion without altering the existing imperfect means of steam distribution. The author traces the various stages of development of the compound steam engine up to the time when modern research demonstrated its economy, but thinks that in spite of the labors of modern experimenters the information relating to this type of engine is not very complete. He then refers to the advocacy of quadruple and quintuple expansion by some engineers, based on the assumption that the more the difference of pressure, and consequently the fall of temperature, in each cylinder was reduced, the less became the internal condensation and the consumption of steam. Experience, however, does not always bear this out, and usually expanding three times is considered sufficient. He refers to the uncertainty that existed as to the correct ratios of cylinder volumes, which today usually vary from 2.6 to 3 for the ratio of the intermediate to high-pressure cylinder, and thinks that practice has had more to do with determining this ratio than theory. He then passes to examine the different methods of utilizing the steam in order to give a minimum consumption per indicated horse-power. To do this he makes use of the same data he has already employed in a former paper on single-cylinder engines; but in order to establish a comparison between multiple-cylinder and single-cylinder engines, he assumes that the expansion of steam follows Mariotte's law, which is far from being the case in multiple-cylinder engines. Under these conditions, he calculates the steam consumption per indicated horse-power per hour, assuming the different values for 1, ratio of cylinder volumes; 2, cut off; 3, initial pressure of steam in cylinder; and then compares under these conditions engines on the Wolf system and those with two or three cylinders. Various tables are given in the paper read before the Société d'Encouragement, showing the influence of the several points. If the results for two-cylinder compound engines are examined it will be seen that a diminution of cylinder ratios corresponds, 1, to an increase of power developed by the steam in the first cylinder; 2, to a corresponding diminution in the second cylinder; 3, to an increase of the total power developed by the two cylinders; 4, to an increase in the weight of steam condensed in the first cylinder; 5, to a diminution of the weight of steam condensed in the second cylinder; 6, but the total amount of water condensed shows no diminution. A closer investigation seems to show that cylinder ratios varying between 2 and 4 are best as regards utilization of heat. A consideration of the influence of various points of cut-off shows that for a given cylinder ratio there is a point of cut-off corresponding to a minimum consumption of steam. In the third part of the paper the author discusses a number of diagrams taken on multiple-cylinder engines, and compares the results of this examination with his calculations. He concludes by stating that although it is true that by employing two or more cylinders to expand the steam in, the fall in temperature in each is reduced, and consequently the internal condensation should fall too. Yet, on the other hand, the cooling surface in contact with the steam is increased, so that what is gained by decreasing the range of temperature is more than counterbalanced by the increase of surface in contact with steam. It is from this cause that the steam consumption of a compound engine may be higher than that for a single cylinder engine. He considers that the loss from condensation is largely due to the difficulties of obtaining the best possible steam distribution with a single slide valve, and it is this that has led to the introduction of improved independent valves on single-cylinder engines. —Institution C. E., Foreign Abstracts.

THE OLD AMERICAN CLIPPER SHIPS.

In the early forties the Americans turned out some very fast ships for the China and other foreign trades. Freights between New York and San Francisco were then up to \$35 and \$40 a ton. The Flying Cloud, built by Donald Mackay at East Boston, in 1857, made 433 1/4 statute miles in one

day, noon to noon, being slightly over 18 miles per hour. The Sovereign of the Seas, from the same yard, received as freight on her first voyage from New York to San Francisco \$84,000. In her second year she made 6,245 miles in 22 days, nearly 12 miles an hour all through. The American clipper ship Surprise took outward cargoes from New York to San Francisco, made her way to China, and loaded tea at Canton for London. Her receipts for the round voyage paid her entire cost and running expenses, besides leaving a profit of \$50,000 (her freight from Canton was \$30 a ton). One of the Baltimore clippers, the Architect, secured in 1854 no less than \$40 a ton freight from Canton to London. The success of the American vessels stimulated the energies of British builders. Mr. Richard Green's Challenger was pitted against the American clipper Challenge from Anjer home, and ship was staked against ship. The British ship beat the American by two days, making the passage in 62 days. Reference in a volume just published on this subject, is made to the Lord of the Isles, the Titania, the Ariel, the Fiery Cross, the Serica, the Taeping, the Taitsing the Thermopylae, the Cutty Sark, the Sir Lancelot, and other famous British clippers.

HEAD OF THE LAKES COMMERCE.

The RECORD has just received the official report of lake commerce at Duluth and Superior for the navigation season of 1900, with comparisons of commerce of previous years, as kept by the U. S. Engineer Office, Duluth, and compiled under the direction of Major Clinton B. Sears and Captain D. D. Gaillard, Corps of Engineers, U. S. Army.

AMOUNT OF FREIGHT RECEIVED AND SHIPPED, PRICE PER UNIT, AND VALUATION OF SAME, DULUTH, MINN., AND SUPERIOR, WIS., COMBINED.

DESCRIPTION OF CARGO.	QUANTITY	PRICE PER UNIT.	VALUATION
Coal, Anthracite, net tons.	643,179	\$ 5 25	\$ 3,376,690
" Bituminous, " "	2,029,398	3 30	6,697,013
Limestone, " "	39,956	1 80	71,921
Salt, bbls....	305,883	90	275,294
Mach'y, all kinds, net tons	332	300 00	99,600
Manufactured Iron, " "	53,228	60 00	3,193,680
Kerosene Oil, bbls....	108,146	5 80	627,247
General Mdse., net tons	233,881	100 00	23,388,100
Logs, 1,000 ft. B. M.....	75,142	11 00	826,562
Fish, net tons	745	70 00	52,150
Cement and Lime, bbls....	180,166	1 40	252,232
Building Stone, net tons	6,906	6 50	44,888
Other Stone, " "	1,250	75	938
Sand and Gravel, cu. yds.	30,141	50	15,070
Iron Ore, net tons	5,979,740	2 25	13,454,415
Copper, " "	67,344	340 00	22,896,960
Flour, bbls....	5,949 012	3 75	22,308 795
Wheat, bush...	30,776 404	70	21,543,483
Other Grains, etc. " "	12,960,154	70	9,072,108
Structural Steel, net tons	836	75 00	62,700
Wool, " "	7,348	260 00	1,910 480
Lumber, 1,000 ft. B. M.	323,901	14 00	4,534,614
Shingles, M. No.....	175,327	1 00	175,327
Lath, " "	30,567	2 00	61,134
Ties, " "	559,318	30	167,795
Total,		\$135,109,196	

In addition to the foregoing, it is noted that the total number of vessels entered and cleared during the 234 days of open navigation, was 11,334, of which 9,512 were steamers and 1,822 sail and tow barges, having a total registered tonnage of 14,387,068, and an average or mean tonnage of 1,443 for each vessel, exclusive of tugs. Even these large figures show a decrease in the valuation of cargoes received and shipped of \$22,034,770 as compared with the previous season, when the aggregate valuations amounted to \$157,143,966 for 11,608,088 tons, as compared with 11,725,245 tons for the season of 1900.

The total number of passengers arriving and departing was 62,933, an increase of 6,723 over 1899, and 27,191 over 1895. The average number of tons of cargo received each day was 13,142 and of shipments 36,923 tons, thus making a total amount of 50,065 tons of cargo handled daily throughout the season of navigation.

Relative to the valuation of the different commodities, wheat and other grains show a decrease of 22,998,505 bushels, with a valuation of over \$18,000,000 less than 1899.

Anthracite coal shows a decrease of 328,557 tons with a valuation of over \$1,700,000 less than 1899.

Iron ore shows an increase of 1,054,685 net tons over 1899. The total traffic of 11,725,245 net tons shows an increase of 117,157 tons over 1899.

SHIPPING AND MARINE JUDICIAL DECISIONS.
(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Usury in Bottomry Bond not Illegal.—A loan secured by a bottomry bond is not affected by the usury laws, since the lender is the insurer of the vessel for the voyage to the extent of his loan. Theo. H. Davies & Co., Limited, vs. Soelberg et al., 64 Pac. Rep. (Wash.) 540.

Personal Security in Connection with Bottomry Bond.—A bottomry bond cannot be given in connection with personal security by the owner of the vessel to pay the debt regardless of the return of the vessel to port. Theo. H. Davies & Co., Limited, vs. Soelberg et al., 64 Pac. Rep. (Wash.) 540.

Maturity of Bills of Exchange for Bottomry Bond.—Bills of exchange may be given in connection with a bottomry bond as representing the debt so secured, but such bills will not mature until the vessel returns to port. Theo. H. Davies & Co., Limited, vs. Soelberg et al., 64 Pac. Rep. (Wash.) 540.

Seamen—Wages.—A seaman, who signed articles before a shipping commissioner at a distance from the vessel, to which he was furnished transportation, arriving on the same day at 6 p. m., held, to be in the service of the ship that day, and entitled to wages therefor. The Alice B. Phillips, 106 Fed. Rep. (U. S.) 956.

Court of Admiralty—Finding of Fact Presumptively Correct.—A finding of fact by a court of admiralty upon conflicting evidence will not be reversed or modified by an appellate court unless there is a clear preponderance of evidence against it. Elphicke et al., vs. White Line Towing Co., 106 Fed. Rep. (U. S.) 945.

Bond to Secure Bottomry Bond Invalid.—Where a bottomry bond is accepted as security for an advance by the lender, subsequent bond by the owner of the vessel, given to secure such sum and in consideration thereof, is invalid for want of consideration.—Theo. H. Davies & Co., Limited, vs. Soelberg et al., 64 Pac. Rep. (Wash.) 540.

Bottomry Bond—Creates No Personal Liability.—A bottomry bond is an obligation in the nature of a mortgage on a vessel to secure necessary moneys or supplies for the continuance of a voyage, which can be procured in no other way, and does not create a personal obligation on the owner till the vessel reaches port. Theo. H. Davies & Co., Limited, vs. Soelberg, et al., 64 Pac. Rep. (Wash.) 540.

Seamen—Wages—Overtime.—Seamen serving under entire contracts, either by the month or for the voyage, are not entitled to lien on the vessel for overtime on account of services rendered on Sunday or at night, where the work performed was not outside their proper duties under their contracts, notwithstanding a promise by the master to pay them for such overtime. The Northern Light, 106 Fed. Rep. (U. S.) 748.

Seamen—Wages Recoverable—Right to Discharge on Vessel becoming Disabled.—A vessel which is so injured by encountering ordinary perils of navigation as to be unfit to complete the particular voyage commenced, is "lost or wrecked," within the meaning of Rev. St. U. S. § 4527, and the seamen employed for such voyage may rightfully be discharged on her return to port of departure, and are entitled to recover wages only for the time actually served. The Charles D. Lane, 106 Fed. Rep. (U. S.) 746.

Shipping—Injury of Stevedore—Liability of Ship.—Libellant, who was employed by stevedores, and engaged with others in stowing cotton in the hold of a ship, was injured by the rolling against him of bales of cotton lowered by the winchman upon those lying under the hatchway. Held, that in the absence of evidence to sustain allegations of the incompetence of the winchman to which the libel charged the injury, or to establish any improper or unskillful act on his part, the ship could not be held liable for the injury. The Anaces, 106 Fed. Rep. (U. S.) 742.

Voluntary Signing of Release.—A vessel, soon after starting on a voyage, became so disabled in a storm as to be unable to proceed, and jettisoned a portion of her cargo, and returned to the port of departure for repairs, where the master discharged the crew, and paid them their wages for the time served. The men protested that they were entitled to a month's pay, but without compulsion accepted the money tendered, and signed a full release in the presence of the shipping commissioner. Held, that they were bound by such release, and could not maintain a suit against the vessel for additional wages. The Charles D. Lane, 106 Fed. Rep. (U. S.) 746.

Collision—Excessive Speed—Fog.—A tug returning from sea with two dumpers in tow on a hawser collided at about 12 midnight, in a thick fog, with a ferryboat. Both boats gave proper signals, which were heard by each some four or five minutes before the collision, which occurred at about right angles. Each claimed that his own boat was stopped at the time of the contact. This evidence was rendered improbable from the severe injuries suffered by both vessels. The lights of the colliding vessels were discovered at a distance of from 100 to 200 feet. Held, that both vessels were in fault, in not sufficiently reducing their speed so as to have been able to come to a full stop after the discovery of the lights. The West Brooklyn, 106 Fed. Rep. (U. S.) 751.



ESTABLISHED 1878.

Published Every Thursday by
THE MARINE RECORD PUBLISHING CO.,
Incorporated.C. E. RUSKIN, Manager.
CAPT. JOHN SWAINSON, Editor.CLEVELAND,
Western Reserve Building.CHICAGO,
Royal Insurance Building.

SUBSCRIPTION.

One Copy, one year, postage paid,	\$2.00
One Copy, one year, to foreign countries,	\$3.00
Invariably in advance.	

ADVERTISING.

Rates given on application.

All communications should be addressed to the Cleveland office,
THE MARINE RECORD PUBLISHING CO.,
Western Reserve Building, Cleveland, O.

Entered at Cleveland Postoffice as second-class mail matter.

No attention is paid to anonymous communications, but the wishes
of contributors as to the use of their names will be scrupulously
regarded.

CLEVELAND, O., MAY 16, 1901.

How will the discovery of the North Pole affect the Monroe doctrine?

THE recorded speed of the world is that of the steam turbine propelled craft Viper, under the British flag. This vessel on her trial trip steamed at the rate of 43 miles per hour.

A CANADIAN owned tug boat took the initiative in drowning women this season through the craft foundering. It is sad to record that a Duluth owned passenger steamer very early repeated the regrettable experience.

The thanks of the RECORD are due to Capt. D. D. Gillard, Corps of Engineers, U. S. A., in charge of the conservancy and improvement of rivers and harbors at the head of the lakes, for blue print copies of commercial data relating to Duluth and Superior.

THE Pittsburg Steamship Co. (United States Steel Corporation) owing a fleet of over one hundred vessels, more than half of which are steamers, came to an agreement with the lake engineers' union on Monday. It is expected that the entire fleet will be in service previous to June 1.

ANENT the wisdom of building the large wooden schooners now so much in evidence on the eastern coast, the word has traveled west to the lakes that one of the five or six stickers has been dividing up an 80 per cent. dividend after each passage. This, if true, (and we learn it from a relative of one of the owners) is surely a hallelujah deposit for investors.

IT is quite possible that industrial data sent in confidence to the Bureau of Statistics may in some measure leak out so as to furnish information when the senders least desire. If there is any probability of such being the case the department chief could not do less than safeguard the business interests of citizens to the best of his ability.

CERTAIN days ought to be specified and set aside each week during the winter months for examining candidates for licenses for pilots and engineers. The present unsettled and disorganized style at all ports where local inspectors are employed, is to leave the dates optional and the candidate never knows on what day he can arrange a date to be examined as to his competency to hold a license in any grade. While the present dictatorial sort of policy may suit the wishes, will or whims of local inspectors, it is in all exceedingly annoying to the candidate living at a distance from the local inspector's office, especially when it happens, as in some cases, that the inspector will not name any immediate date when he will examine a candidate.

RIVER AND HARBOR IMPROVEMENTS.

As a general statement, it may be accepted that, the better the facilities offered to shipping at any harbor, the greater will be the prosperity of the port, and all that the sentence implies. Without a good, clear draft of water, towing, loading and discharging appliances, as well as a favorable labor element, an otherwise excellent location will be sidetracked, or, having these facilities only to a meager extent, a present flourishing port will find itself forsaken as regards waterborne traffic, and we have an ample number of precedents to bear us out in this assertion, even on the lakes, but more markedly so in the older channels of trade.

Without the most liberal expenditures and advanced modern equipment for the purposes outlined in the foregoing, no port can be found to accommodate its full, fair and complete share of traffic, and this is true at the time immediate, not that the port was a good, safe one, offering every facility, etc., a decade ago, but it must be so today, and be regularly kept in advancement of its actual and even special necessities, if it is to hold its place as an entrepot of the country's commerce.

While it is generally understood that the federal government makes appropriations for the conservancy and improvement of the approaches to lake and coast ports in the interests of the entire citizenship of the country, there should be no vague, clouded impression relative to the onus resting with the municipality in the works which should be undertaken for the direct benefit of the local community. This condition may be stated more concisely in saying that a Kansas farmer may righteously be levied on to pay a fractional tax for the improvement which carries his produce to the consumer, but his funds cannot be intrenched upon to clean out the sewers of a large city, whether situated on the sea coast or the lakes.

No maritime power can ever make a more judicious expenditure than that voted for the up-keep of her gates of commerce, and, it may be said, that we furnished but a sorry burlesque in the final handling of the late River and Harbor Bill in the closing hours of the last Congress.

There is a possibility that wrong features may be injected into the reconstructed measures to be brought before the next Congress. Log-rolling has been the bête noir of the bill at all times, undue and unjust influences at work have sometimes been made apparent, nearly always suspected, and in a manner felt rather than exposed. This horrible condition of legislation it is now proposed to continue, as a committee of one has visited all of the principal lake ports, urging commercial bodies to get together in making a grand raid upon the treasury. In other words, the plan is to patronize the various interests, so that one section will not feel that it is being neglected for another, and thus with a clear understanding to send to Washington representatives of the influential commercial organizations when the next river and harbor appropriation bill is being considered, who will pull together and secure the passage of a bill. All of which embodies log-rolling, pure and simple. Appropriations not to be asked for on their respective merits, but to the extent that one influence can bolster up another. This feature we consider wrong in its inception, carrying the earmarks of dishonesty in its methods, and abominably reprehensible in its execution.

It has been said that the whole system, as at present in operation, ought to be changed, and it has been suggested that there ought to be a permanent body of engineers to take charge of all the rivers and harbors of the United States, and to go over every part of the country and make elaborate surveys and estimates of all river and harbor improvements. Such a body of engineers would not be, in the nature of things, subject to local influences, and its findings would, therefore, be undoubtedly impartial. This change in the system would largely take from the Representatives in Congress the onus and responsibility of urging improvements for their special localities. This as a suggestion, is far beyond sending a No. 2 Coxey army to Washington loaded down with "infloence," national, state, local or of a lucrative nature.

The much talked of sixty million dollar appropriation required to carry out the provisions of the last river and harbor bill, was, after all, less than half of the amount that the French Minister of Public Works asks for towards the improvement of inland navigation in France, and yet only a moiety of the sixty million dollars was wanted for strictly inland navigation in the United States.

In the entirety, voting a sum for special improvements in river and harbor work, is a problem to solve, and in simple justice to the country, it ought to be solved in the right way once for all.

STEAM LIFEBOATS.

Lying at her moorings inside the Rock light, at the mouth of the River Mersey, and ready for a summons to board anything showing signals of distress in Liverpool Bay, a decked-over, double-ended, steam life-boat has been lying, for lot, these many years, as a pronounced success in her line of work.

The form of her upper works resembles the well-known whaleback models in miniature, minus the turrets, somewhat cigar-shaped, the forward turtle deck joining her bustle amidships, thus completing a fore and aft turtle-back, indented here and there with dead-lights and ventilators.

Such being an old story, we have marveled much at the score and one experiments and trials made regarding a similarly propelled craft, invented, if you please, at Marquette, Mich. Official expeditions brought forth long-winded reports touching upon the innovation as a kitten would play with a mouse and as though suspicious of destroying the charm of a fad, or a hobby to ride, by either condemning or adopting for service use anything in the line of a life-saving labor killer.

It is to be hoped that within the next few expeditionary official trial tests the sages of the life-saving service may be able to determine that it is possible for a self-righting, decked-over, naphtha launch to prop herself through a mile or two of surf without the aid of a tow line from a local tug of questionable seaworthiness, or, as the mileage will not be so great to the Pan-American lagoon as it is to the south shore of Lake Superior, the merits and demerits of the invention (?) can be amply demonstrated throughout the summer months in Mirror lake, Buffalo.

Rowing a boat with oars is an ancient application of power and an ever-present, economical one, too, the addition of a few cloths of canvas is a commendable substitute when occasion permits, anything further will apparently directly lessen the appropriated funds financial, at the same time, a decked-over, self-righting and bailing craft propelled otherwise than by oars or sails is by no means impossible of devising when required.

SAILING RULES ON THE LAKES AND RIVERS.

As regard the steering and sailing rules in force on the lakes, it is a question if the private promoters of these laws are not overstepping the bounds of prudence. There is, in the first place, the International "Rules of the Road," strictly observed by Canadians in their half, or the northern part of the lake centers, and now over-ridden by the new lake code (the White law) adopted by act of Congress for American traffic between Duluth and Montreal. Then again comes in the special laws ordered by the Secretary of the Treasury regulating the piloting and conduct of vessels as regards speed, meeting and passing vessels, etc., in the Detroit, St. Clair and St. Mary's rivers, all of which are international waterways, while the Treasury Department rules for their navigation are still unrecognized by the Canadian government.

The present safety of navigation, or immunity from dangerous casualties, apparently rests in the fact that Canada, at the present time as in the past, owns but a moiety of the tonnage engaged in traversing the lakes, so that the rules for sailing and steering, being observed by a large majority of the floating property, averts serious conflicts arising in carrying on the commerce of the lake as practiced, understood and legally enforced between the three sets of rules, or as it might be stated, the original or unchanged Canadian or international rules, the so called White law, recently enacted by act of Congress for the guidance of American vessels, and the later code, duly authorized and in force, for the navigation or piloting of the rivers specified in the foregoing.

Of course, each and every interest will at all times endeavor to avoid trouble, by giving way, even to the total abandonment of all or any of the rules, to avoid immediate danger, at the same time, and as between Canadian and American traffic, the more uniform the rules for steering and sailing are made, especially in international waterways, the greater degree of safety will undoubtedly prevail.

We believe that we are not alone in our opinion in stating that any more additional rules and regulations should not be forced upon those who are responsible for the safe conduct of vessels engaged in the inter-lake trade. Moreover, while nothing can be urged against the adoption of any special rules thought necessary in traversing Canadian or American canals, or the usual harbor laws and local regulations enacted by a municipal government, the laws governing the conduct of vessels in open waters should be made as uniform as possible.

ALL the carefully penciled figures regarding the amount of iron ore to be carried each month, including hair losing cogitations on the ability of new tonnage to reduce lake freights, etc., have gone glimmering down the gloaming of the dim and misty past, as the poet would, could or might say. Of course, no mere pencil pusher ought to have attempted to wrestle with the idiosyncrasies of the Ice King or endeavored to obviate in any manner the detention to lake commerce experienced through an impenetrable fog bank enveloping the main arteries of traffic on the earliest resumption of free navigation, hence, the cargo statistics for the month of May, and also in a corresponding measure, those for June have been knocked all aglee. Of course, the slight element of friction occasioned by labor troubles should have been foreseen, counted in and duly allowed for, but it wasn't. All of which goes to show that the ordinary expectations of the man behind the desk are sometimes liable to fall down, not to speak of the ringing in of twice laid, re-hashed and everlasting drummed over penailings of old, wily, misleading figurers, who, for a brief space of time, may try to ape the attributes of a know-all, in calmly ascertaining that figures wont lie, which might be all logical enough, too, if figured to an issue by competent experience in lieu of the blank guesses of a what-might-have-been. Granting that, figures don't always lie, yet the innocent or ignorant makers thereof may not unfrequently show a sneaking disregard for ultimate truths.

OH HO! another act of bravery discovered to have taken place on the lakes several years ago. This time it is Capt. Gilover who rescued the crews of the Flint and Mason off Point Abino, Sept. 20, 1896. It is now thought that the award of a life-saving medal would be a fitting recognition of his humane services. The influential and energetic secretary of the Lake Carriers' Association would render untold service in the interests of humanity, by taking cognizance of the many acts of heroism displayed by members of the crews of vessels enrolled in the association, as they occur from time to time, throughout the season of navigation. This subject has been brought up before, but there is apparently some slight inertia to be overcome before these individual acts of bravery and heroism in rescuing lives from drowning can be fittingly recognized.

TO THE extent of her financial ability, Port Huron is copying after Chicago in awarding a contract for a flushing canal from Lake Huron to the St. Clair river. A Cleveland firm has taken the contract to do this work at a cost of nearly \$100,000 and it is now up to the Secretary of War on the advice of the district officer, to the Chief of Engineers, U. S. A., as to the volume of water to be permitted to flow through this new artificial outlet. As live water is to be used the diversion will have some effect, not necessarily a derogatory one, but, still no doubt worthy of noting from an engineering or hydraulic standpoint.

THE old yacht Shamrock is beating her successor Shamrock No. 2 and no wonder, the old boat is limbered up to give and take all that the sail power can demand out of the hull. The new craft, in hull, rigging, etc., is tied up loose like the Dutchman's dog, muzzled and curbed for the Western Ocean passage. Any swift yacht can be fastened down almost to the gait of a mud scow. This feature, however, is universally known, so that our novices must not judge too hastily regarding, perhaps, what may be the hidden qualities of the new challenger.

EVIDENTLY Mr. J. Pierpont Morgan is living the strenuous life among the British shipowners. Some of the ancient, staid old firms will be counting their fleets even to the uttermost ends of the earth, as a hen gathereth her chickens on the approach of an hawk. There was even reason at hand for some of the firms to be Morganized, though least of all, perhaps, was the house of Frederick Leyland & Co., yet, also and moreover, there are more to follow the magnetizing touch of the Morgan syndicate.

GOOD hard lead, much less anti-fouling or anti-corrosive composition, will stand but little chance of remaining on a vessel's plates in the North-Western Steamship's Co.'s Welland and St. Lawrence canal trade. This will give another opportunity for underwriters, ship surveyors, owners and builders to learn something more regarding the life of steel when regularly exposed to the dual action of fresh and salt water.

WE note that a district light-house inspector is falling into the use of the same old phraseology which we had corrected some time ago. This naval officer fixes "a red gas buoy showing a fixed white light" according to the "notice to mariners" published in this issue of the RECORD. Of course there is nothing dangerous about red gas showing white or plush or cardinal or magenta or all the other charming shades and colors which we have never even heard of, the main object is to show, that's all.

IT is worthy of note that the British Courts in making the usual inquiry into losses by stranding, etc., place great weight on verifying position by the 4 point fix, or bearings. As is to be expected, attention is directed in all cases to the speed and use of the lead in thick weather as well as to the proper application of compass corrections for leeway, tidal or current drift and deviation on the courses steered. The question of an adequate lookout is invariably brought forward in the evidence taken.

THE most rigid investigation is in order relative to the loss of life last week through the burning of the Duluth passenger steamer, Bon Voyage. From present reports those drowned were all women, that is to say, all of the men reached the shore. The good old proper order of women and children first, in a casualty of this sort, seems to have been reversed. There are also other certain peculiar earmarks about the final burning of the steamer which may require thoroughly ventilating.

BY THIS and by that, but those straits down towards the southern extremity of this continent must have been closing in and filling up pretty rapidly since old Magellan's time, when, as a New York special informs us, a sugar laden tramp steamer from the Hawaiian Islands has been compelled to round the Horn, as she was too large to pass through the straits, perhaps it was also a narrow squeeze to get through the Straits of Le Maire. We may have the Magellan clouds dusting the cob-webs off the statue of liberty next.

THE Chicago Drainage Canal Commissioners are chasing ancient history callously close when they countermand the edict to "cast crumbs upon the waters." The surprised astonishment of that bewildered steward when he was placed in the dungeon cell of the police court this week, charged with shaking his table cloth over the side, may be imagined, yet, there is an instance recorded, of contamination flowing up stream too.

THE famous Belfast (Ireland) shipyard, Harland & Wolff's, has had the American Line steamer Paris in hand for nearly two years, and she is now drawing toward completion under a new name, altered hull, and greater engine power. Let us hope that what is left of the original City of Paris, later the Paris, and now the Philadelphia, will have better luck in the future than the past.

NOW that the general lake trade is in full swing again, there should be no such a word as "hold on" in the book. Prompt dispatch at loading and discharging ports and an everlasting get there between ports will doubtless be the order of the day, and months, until old "frosty Joe" makes his re-appearance to clap a stopper on the hurrah in lake commerce and transportation.

IN the table printed on another page of this issue of the RECORD, showing the amount of freight received and shipped at the head of the lakes, we may ask the leniency of our coastwise and British subscribers, so that they will read cargoes, or merchandise, instead of freight, that is, imports and exports, in lieu of the amount earned for transporting same.

ASKED this week about the relative and superlative merits of our eastern contemporaries for advertising purposes by an intending investor, the hello girl either condemned or saved us?

THE New York Marine Journal is running a nautical humorous column these times, which, we think, perhaps, makes it the most widely quoted trade paper extant.

FROM present indications challenger Shamrock III may lift the cup.

CANADIAN SIGNAL SERVICE.

Arrangements have been completed between the Government and Lloyd's, whereby the following signal stations, maintained by the Dominion, have been included in Lloyd's system of reporting stations. Orders forwarded to Lloyd's can be notified to vessels by means of these signal stations on the same terms and conditions as observed at Lloyd's signal stations, and vessels signaling to these Canadian signal stations will be reported to Lloyd's for insertion in the Lloyd's List and Shipping Gazette, and daily press, in the same manner as reports from Lloyd's signal stations:—Cape Ray, New Foundland; St. Paul's Island and Cape St. Lawrence, Cape Breton; Heath Point, South Point, Southwest Point and West Point, Anticosti; Cape Rosier, Fame Point and Cape Magdalen, Gaspe Coast; Amherst Island, Magdalen Islands.

The government telegraph system was, during the past season, extended along the north coast of the Gulf of St. Lawrence to the Strait of Belle Isle, and it was intended to connect Belle Isle last fall with the shore telegraph system by a cable, but the loss of the steamer Newfield has postponed the completion of this work.

Lloyd's have been in communication on the subject of establishing one of their reporting stations on Belle Isle, and have been offered the active assistance in doing so. They are also considering the feasibility of connecting Belle Isle with the mainland by a system of aerial telegraphy, so that communication would not be interrupted by a break in the cable.

Arrangements have been completed by the Department of Marine, whereby all inward bound vessels will be reported from marine signal stations in the river and gulf of St. Lawrence immediately, and all reports will be promptly posted on the bulletin board of the G. N. T. Co.'s office in Quebec and on that of the Board of Trade in Montreal.

SHOAL CLEARED AT DULUTH.

Capt. D. C. Gaillard, Corps of Engineers, U. S. A., announces that the sand shoal, which was bulletined from his office May 3, extending about 100 feet from the south pier of Duluth ship canal, has now been entirely removed.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR,
TENTH DISTRICT, BUFFALO, N. Y., May 9, 1901.

CHANNEL WEST OF GRAND ISLAND, NIAGARA RIVER, NEW YORK.—Notice is hereby given that on May 7, 1901, nine 25-feet spar buoys, numbered from 1 to 9 inclusive, were established to mark the channel west of Grand Island in Niagara river, New York.

By authority of the Light-House Board.
A. DUNLAP, Commander, U. S. N.,
Inspector 10th L. H. District.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 11TH DISTRICT,
DETROIT, MICH., May 13th, 1901.

SUPERIOR AND ST. LOUIS BAYS, WIS. AND MINN.—Notice is hereby given that all the post-light structures in Superior and St. Louis Bays, Wisconsin and Minnesota, which were carried away by the ice during the winter, are being reconstructed and the lights will be shown from them as soon as possible.

A Notice to Mariners will be issued when all the lights in the channels are lighted, and in the meantime vessels should not attempt to navigate these waters by night.

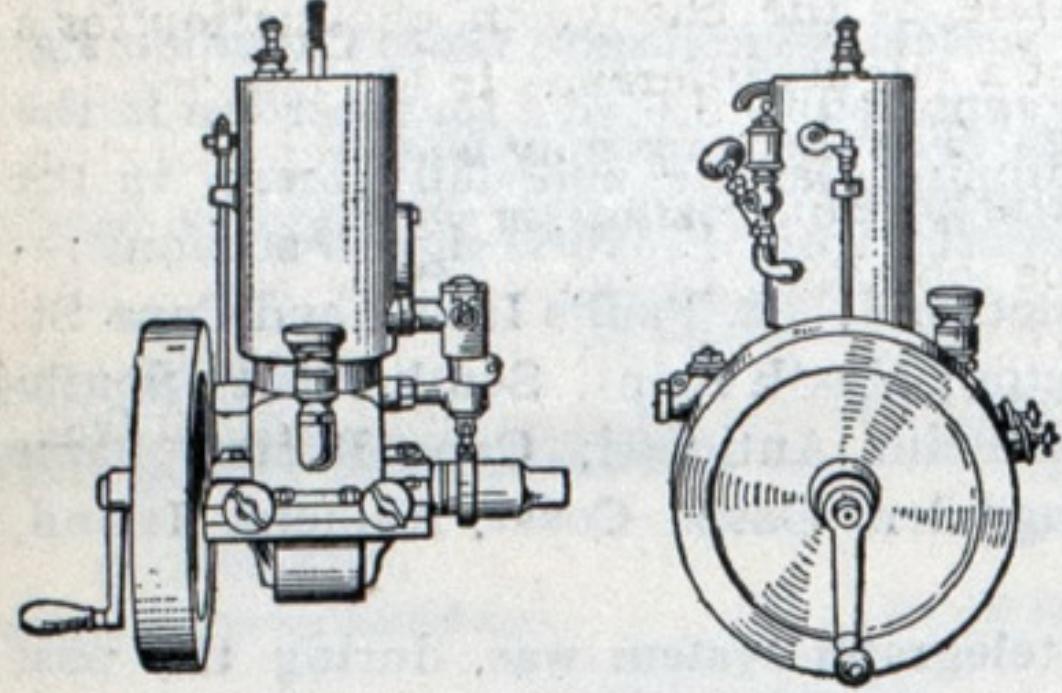
LAKE HURON AND ST. CLAIR RIVER.—Notice is hereby given that on the 11th inst., in accordance with the Light-House Board's Notice to Mariners No. 35 of 1901, the Lake Huron light-vessel station in the southerly end of Lake Huron, $1\frac{1}{4}$ miles N. by E. $\frac{3}{4}$ E. from Ft. Gratiot light-house and to the northward and westward of Northwest Shoal, was marked by a red gas buoy showing a fixed white light during periods of 10 seconds separated by eclipses of 10 seconds, and carrying a bell to be rung by the motion of the sea. The light-vessel will be replaced on her station as soon as practicable, of which due notice will be given.

Also that on the same date two red and black horizontally striped spar buoys were placed in St. Clair river, one to mark the southerly and the other to mark the northerly end of the Middle Ground off St. Clair City, Mich., which according to U. S. Engineer Chart of the St. Clair river corrected to June 10, 1898, has from 16 to 18 feet of water over it. By order of the Light-House Board.

J. C. WILSON, Commander, U. S. N.,
Inspector 11th District.

Blobbs—"It seems funny that living altogether on the ocean they should never get their sea legs on." Slobbs—"Whom are you talking about?" Blobbs—"The mermaids."

Truscott

VAPOR MARINE MOTORS.
HIGH GRADE PLEASURE CRAFT.TRUSCOTT BOAT MFG. CO.
ST. JOSEPH, MICH.

SEND 5 STAMPS FOR CATALOG.

CORRESPONDENCE.

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

DEAD FREIGHT.

OSWEGO, N. Y., May 11, 1901.

To The Editor of the Marine Record:

There is an argument, or perhaps a better way to put it, is, say, a difference on what is called dead freight and we have agreed to take your explanation of the term to settle the controversy.

Will you kindly state through the columns of the MARINE RECORD a clear and full explanation of what we want to know in this matter.

Hoping that you will cover all the points in dispute.

J. RAMDING, An old subscriber.

The term is briefly and decisively contained in the following: Dead freight is the damage payable by one who engages to load a ship fully and fails so to do. Let us state a case, A charters with B to load a full and complete cargo of 1,000 tons, but towards the completion of the lading A finds that he is short 50 tons and that amount of space in weight or measurement, is left vacant when the ship sails, B therefore collects freight from A on the full and complete cargo of 1,000 tons although his vessel only carried and delivered 950 tons. A parallel case is that of paying for a box car on the railroad and only using a portion of its storage capacity.—Ed.

NOVICES ADJUST COMPASSES.

CHICAGO, ILL., May 14, 1901.

To the Editor of the Marine Record.

The last issue of the MARINE RECORD contained the following paragraph in the editorial columns:

"Apropos of the various strandings which occur on the opening of navigation each season, much must be credited to the entire neglect of, or faulty adjustment of compasses. In moving over the ground in thick weather the compass alone has to be depended upon (assisted of course by the lead) and if it indicates incorrectly trouble is liable to ensue. In clear weather a lookout can be kept so as to see that she doesn't bounce on anything visible."

Since the publication of the Master's Manual, and the establishment of a nautical school, under the auspices of certain underwriters, the novices in compass adjusting have multiplied. Everybody familiar with the book referred to, or having passed a course of instruction at said school, thinks himself capable of adjusting compasses; their only trouble being to get the proper magnets. Captains have been running all over this city in search of magnets, in order to do their own adjusting, assisted by a coal dock agent to curry favor. Other incompetents also have started in the business, juggling with compasses for any amount of money offered. Therefore, it is no wonder when vessels find bottom every now and then.

An adjustment by an expert may hold good for many years, if the magnetism of the vessel does not change, and proper care be taken, because he always uses the best of magnets retaining their power. But the practice of taking the compass out of its place at the end of the season, and putting it there again the next spring, without knowing exactly its previous position, vitiates the adjustment. For, a

Pintsch Gas
Lighted Buoys.

Adopted by the English, German, French, Russian, Italian and United States Light-House Departments for channel and harbor lighting. Over 1,000 gas buoys and gas beacons in service.

Burn Continuously

from 80 to 365 days and nights without attention, and can be seen a distance of six miles.

Controlled by

THE SAFETY CAR HEATING AND LIGHTING CO.

160 Broadway, New York City.

difference in position of but one-sixteenth of an inch, one way or the other, may affect courses more or less, according to the magnitude of the errors compensated. And as some owners shun the expenses of a new adjustment every season, the bungling in courses goes on until, by hook or crook, captains have down their courses. Under such circumstances a change of captains means always a repetition of previous mistakes. As vessels generally are insured, underwriters pay the bill for fetching up, and the compass is the last thing aboard ship about which owners trouble themselves.

JOHN MAURICE.

Compass Adjuster etc., of 12 years standing.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo	1,567,000	311,000	170,000	.....	.....
" afloat	168,000	.....	.....	.....	.....
Chicago	10,055,000	5,789,000	2,860,000	338,000	167,000
" afloat	36,000	299,000	.....	.....	.....
Detroit	177,000	220,000	1,000	12,000	2,000
Duluth	9,841,000	5,212,000	1,358,000	427,000	75,000
" afloat	138,000	.....	.....	.....	.....
Fort William, Ont.	1,996,000	.....	.....	.....	.....
Milwaukee	650,000	739,000	342,000	.....	17,000
Port Arthur, Ont.	25,000	.....	.....	.....	.....
Toledo	366,000	470,000	226,000	1,000	2,000
Toronto	43,000	.....	1,000	.....	50,000
On Canals	133,000	52,000	226,000	16,000	.....
On Lakes	2,666,000	1,657,000	2,279,000	62,000	184,000
On Miss. River . . . . .	.....	.....	.....	.....	.....
Grand Total	45,761,000	17,338,000	11,449,000	963,000	719,000
Corresponding Date 1899	47,621,000	16,155,000	7,246,000	1,025,000	953,000
Increase	907,000	1,327,000	1,077,000	17,000	24,000
Decrease . . . . .	.....	.....	.....	.....	.....

While the stock of grain at lake ports only is here given he total shows the figures for the entire country except the Pacific Slope

THE PADUCAH DISASTER.

Information of the wreck of the steamer Paducah, of the St. Louis & Tennessee River Packet Co., which occurred at Brunkhorst Landing, Ill., last Sunday night, was obtained upon the arrival of the steamer City of Clifton, at St. Louis, on Tuesday.

Fifteen persons lost their lives, six whites and nine blacks. The City of Paducah stopped at Brunkhorst Landing, Sunday night, and took on a load of corn. When in the act of backing away from the wharf the boat swung around and struck the bank heavily with her stern. A snag imbedded in the bank tore a hole in the hull through which the water rushed. She at once began to settle and at the end of three minutes nothing but her Texas deck and pilot house remained above the surface.

The passengers lost all their belongings and had to be supplied with clothing by those on shore.

The steamer lies in thirty feet of water. She was valued at \$15,000 and is a total loss.

"Do you believe the earth is really flattened at the poles?" "Well, I dunno. I've never studied the subject much. But if it is, it must be because J. Pierpont Morgan prefers it that way."—Chicago Times-Herald.

NOTES.

THE Gas Engine and Power Co. and Charles L. Seabury & Co. Consolidated, announce the removal of their down town office, from 50 Broadway to 11 Broadway, Bowling Green Building, New York.

BIDS were opened at Cincinnati, O., May 8, by Major Wm. Bixby, Corps of Engineers, U. S. A., for furnishing 4,000 barrels of Portland, or 6,000 barrels Natural cement for Chanoine Dam No. 2, Ohio River, received in response to advertisement dated April 2, the firms submitting bids were: The Lawrence Cement Co., Philadelphia, Pa. Glenn Falls Portland Cement Co., New York, N. Y. D. J. Kennedy, Pittsburg, Pa. Empire Portland Cement Co., Warners, N. Y. W. H. Williams & Co., Pittsburg, Pa. Wm. Wirt Clark & Son, Baltimore, Md. Cummings Cement Co., Pittsburg, Pa. Houston Bros., Pittsburg, Pa. L. S. McKallip & Co., Pittsburg, Pa. Lawrenceville Cement Co., New York, N. Y. New York & Rosendale Cement Co., New York, N. Y.

"THE seven shipbuilding companies which are about to go into a combine have orders in hand aggregating more than \$63,000,000, which will keep them busy for more than eighteen months," says the Boston Transcript. "From this total, Government work must be deducted to get at the importance of these companies to the rehabilitation of the merchant marine, but this process is going on merrily. The great Cramp plant is not in the combine, neither is the company at New London which has now under construction the two largest vessels ever laid down in American yards, levitanian steamers of 20,000 tons displacement each, designed for J. J. Hill's Oriental line. This year will be a red letter one for the additions it will see made to the American merchant marine."

THE H. W. Johns M'f'g. Co. 100 William Street New York, are sending out their bulletin No. 5 containing a revised price list of the "Noark" fuse (Sachs patent). It is stated that for use on high tension alternating lines no protective device is comparable to the "Noark" Fuse. Absolutely positive in its opening of the circuit under any conditions without the disastrous results accompanying ordinary fuse devices, the "Noark" at the same time is positive proof against personal injury, as it does not require any guesswork or tests to indicate to the user the condition of the fuse. Used on transformer primaries or subway boxes the Fuse for this service can be relied upon to work at any and all times without danger to life or property. The "Noark" Fuse furnishes a perfect protection in many cases where the use of other fuses is impracticable and in fact impossible.

A NEW writer of sea stories, James B. Connolly, is now coming to the front with his tales in Scribner's Magazine. There was one in the April number entitled "A Chase Overnight," and the June issue will contain another, "On the Echo o' the Morn." They are the best Gloucester fishing stories that have appeared in many a year. The author gets his material at first hand, and has been on many voyages with the skippers, and through his skill could at any time secure a position on board one of the Gloucester schooners as a full hand. He has had a most romantic career. He was at Harvard in 1896, left the university and went to the Olympic games, where he won a first prize. He was in the Spanish-American War with a Massachusetts regiment, and has been an inspector and paymaster on Government dredging operations. He has also crossed the ocean several times in the steerage, as a sailor, and as a hand on a cattle-boat.

BOTTOMRY-RESPONDENTIA-HYPOTHETICATION.

The term bottomry bond is not frequently heard or used in the handling of lake owned vessel property, for which all interests ought to be truly thankful, however, as the word occurs in a paragraph of our "Shipping and Marine Judicial Decisions" this week, we have thought it of importance enough to warrant us in printing a brief explanation of the word bottomry and also its sister terms respondentia and hypothecation or pledging, fulfilling, as they do the same transactions as mortgaging, bonding or loaning in shore parlance.

Bottomry Bond—The contract of bottomry is a negotiable instrument, which may be put in suit by the person to whom it is transferred; it is in use in all countries of maritime commerce and interests. A contract in the nature of a mortgage of a ship, when the owner of it borrows money to enable him to carry on the voyage and pledge the keel, or bottom of the ship as a security for the repayment. If the ship be lost the lender also loses his whole money; but if it return in safety then he shall receive back his principal and also the premium stipulated to be paid; however it may exceed the usual or legal rate of interest. The affair is, however, only valid upon the ground of necessity, and thus exacting more than the interest allowed by law is not deemed usury.

Respondentia.—A loan made upon goods laden in a ship, for which the borrower is personally responsible; differing therein from bottomry, where the ship and tackle are liable. In bottomry the lender runs no risk, though the goods should be lost, and upon respondentia the lender must be paid his principal and interest, though the ship perish, provided the goods be safe.

Hypothecation—An authority to the master, amounting almost to a power of the absolute disposal of the ship in a foreign country; he may hypothecate not only the hull, but his freight and cargo, for necessary and urgent repairs.

OWNERS CENSURED.

The coroner's jury impaneled at Houghton, Mich., which investigated the fire on the steamer Bon Voyage, brought in a verdict censuring the owners of the boat.

The jury found that Mrs. Leah Sharpe, Mrs. Benjamin Altman and her two daughters came to their death by drowning while escaping from the burning steamer, and that the disaster was due directly to the wilful negligence of the owners of the vessel in not taking necessary precautions against fire and for the safety of the passengers.

Mayor Archie Scott, of Hancock, was foreman of the jury, and the inquest has attracted great crowds of people to hear the testimony. Feeling over the accident runs high among many people.

The Bon Voyage was destroyed by fire on the night of May 10th, and the persons lost were all passengers. All the crew escaped.

THE tonnage of the Leyland line is now about 350,000 tons and the vessels building or contracted for will make an increase of 100,000 tons or an aggregate of 450,000 tons in all. The present tonnage of the Atlantic Transport line is about 150,000 tons and the vessels building and contracted for will measure nearly 100,000 tons or roughly, 250,000 tons in all. This would make an aggregate tonnage, were the two lines combined, of over 700,000 tons. The Hamburg-American would be the next with 630,000 tons, and the North German Lloyd third, with its 500,000 tons.

BRIEF HISTORY OF IRON ORE PRODUCTION.

Four hundred years ago the United States were not in existence; in 1585 iron ore was discovered in what is now North Carolina, and the first attempt to manufacture it was made in Virginia in 1619. In 1643-45 a blast furnace was built at Lynn, Mass., and three years later a forge was erected. Interference by legislation of the British Parliament stopped the work for a time, but it was resumed later, and in 1740 one thousand tons of iron were produced. In 1790 the United States gave to the world 30,000 tons of iron, and was exceeded among iron producing countries by Great Britain, France and Germany; then it went forward at great leaps until 1870, when, with an output of 1,670,000 tons, it had passed France and stood second to Great Britain, the leader of the iron world for four hundred years. For about twenty-five years the two great nations stood in this relation, the United States gaining a little one year to lose it another, but in 1890, after a Titanic race of over 100 years, we forged to the front and led the leader of the world of nations with the production of 9,202,703 tons, an increase over the British output of 1,308,489 tons. We held the lead for three years, but in 1894 we lost it to gain it again in 1895, to lose it in 1896; but in 1897 we led again, and again in 1898, and in 1899, with our output of 13,620,703 tons, exceeding that of Great Britain by 4,315,394 tons, we have put our great competitor out of the race. This excess over Great Britain's product is greater than our entire annual output of but fourteen years ago. Verily, for the youngest of the great nations we have done exceedingly well, and we shall hold the position we have reached because our youth gives us the advantage of illimitable fields of fuel and ore which are yet practically untouched and easy of access, while those of the old countries in competition have been worked almost to the limit. Under such conditions, it is safe to predict that the United States will not only lead the world in iron production, but in time will supply all the nations of the earth with their iron. That this country has so rapidly reached first place and already produces nearly 35 per cent. of the world's product is earnest of what it can do when its full energies and resources are brought into active operation.

W. J. Lampton in Ainslee's.

The MARINE RECORD must have had its ear to the ground judging by the following: "A healthy rivalry has been engendered in regulating the running expenses, daily cost, or trip disbursements of a boat. While this is a commendable feature from every standpoint it ought never to be permitted to descend to the level of parsimony in the food supply account, nor do we think it will, among the majority of the present generation of lake vessel owners and managers." The News-Record has been aware of the fact for some time, that there was many complaints from the seamen on some of the lake lines, in regard to both the quantity and quality of the food. One line has the matter down so fine that it figures the number of men aboard a boat, the number of hours it will take to make the trip, and then supplies the steward with just enough, according to figures as to how much every man should consume, to make the trip. If any delay occurs or a portion of the food is spoiled the men go hungry. We know personally a number of men who have quit their work because of the insufficiency of the food supply. The RECORD rightly says, the matter of food supply should never descend to parsimony. The work of a sailor is hard and demands a sufficiency of well-cooked and well-served food.—The News-Record, Sault Ste. Marie, Mich.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising or setting will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.
Date. Amplitude. Bearing P'ts. Bearing Comp.

May 16..... E. 26° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{3}{4}$ E.
May 20..... E. 27° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{5}{8}$ E.
May 23..... E. 28° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{1}{2}$ E.

LAKE ONTARIO S. END HURON AND CENTRAL PORTION
LAKE MICHIGAN, LAT. 44° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

May 16..... E. 26° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{3}{4}$ E.
May 20..... E. 28° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{1}{2}$ E.
May 23..... E. 29° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{5}{8}$ E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

May 16..... E. 28° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{1}{2}$ E.
May 20..... E. 29° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{3}{8}$ E.
May 23..... E. 30° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{1}{4}$ E.

LAKE SUPERIOR, LAT. 48° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

May 16..... E. 29° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{3}{8}$ E.
May 20..... E. 30° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{1}{4}$ E.
May 23..... E. 31° N. = N. 5 $\frac{1}{2}$ E. = N. E. by E. $\frac{1}{8}$ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

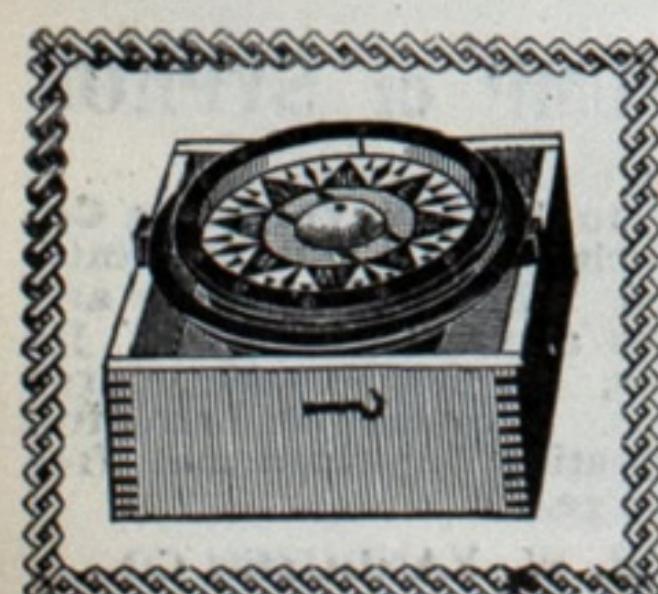
The trip of the steamyacht Dreamer owned by Mr. Thos. Lawson, of Boston, Mass. and in command of Capt. John C. Silva, Grand Captain of the American Association of Masters and Pilots of Steam Vessels turns out to be untrue, no such voyage was ever intended.



MARVELOUS
THE NEW
BAUSCH & LOMB-ZEISS
STEREO Binocular Glasses.
Used by the Armies and
Navies of the World.
Invaluable for Tourists,
Sportsmen and Every-day
Use. Booklet Free.
Bausch & Lomb Optical Co.,
Rochester, N. Y.
New York. Chicago.
For sale by all dealers.

S.F. HODGE & CO.

MARINE ENGINES,
PROPELLER WHEELS,
DECK HOISTERS,
MARINE REPAIRS.
312 ATWATER STREET,
DETROIT, MICH.



THE
Bliss

LIQUID (Spirit)
COMPASS

Made in seven sizes by JOHN BLISS & CO.,
128 Front Street, New York, is finely finished
sensitive, accurate and durable. Moves quickly
and is extremely steady. Is the best Liquid Com-
pass ever made in this or any country. For sale
by ship chandlers generally.



Steamboat Fuel at Chicago.

YOUGHIOGHENY and
LEHIGH COAL CO.

J. T. CONNERY, Manager. ARCHIE J. HITCHCOCK, Dock Supt.
MAIN OFFICE: 1238-1242 Chicago Stock Exchange Building.
Long Distance Telephone, Main 5049. 110 LA SALLE STREET.
No. 1, Michigan Slip and Basin. Phone 3046, Main.
No. 2, N. Halstead St. Bridge. Phone 773, North.

FUEL DOCKS:

Equipped with 125 2-ton Buckets for
Fueling anywhere in Harbor

FUEL LIGHTER:

WE PRODUCE OUR YOUGHIOGHENY COAL
AND GUARANTEE QUALITY.

PICKANDS, MATHER & CO.

PIG IRON.
IRON ORE AND COAL.

AT BUFFALO,
ERIE,
ASHSTABULA,
AND CLEVELAND.

At DETOUR, MICH., A FUEL DOCK equipped with
Shute capacity of 600 Tons.
Best Quality PITTSBURGH COAL furnished at any
time during Day or Night.

WESTERN RESERVE BUILDING, CLEVELAND, O.

FUEL LIGHTERS

STARTED,
REGULATED,
STOPPED
With One Handle.

EYNON-KORTING COMPOUND INJECTOR.

The BEST for Stationary, Marine or
Locomotive Service.

Takes water at a temperature of 150 degrees.

Will Lift Water
24 Feet.

Has a Greater
Range than any
other Injector.

No Adjustment Required for Steam Pressures
Varying from 15 to 300 Lbs.

THE EYNON-EVANS MFG. CO.

15th and Clearfield Streets,
PHILADELPHIA, U. S. A.

New York Office, 107 Liberty Street
Boston Office, 42 Oliver Street.

Compass Adjusters.

CLARENCE E. LONG,
MILWAUKEE, WIS.

Scientific Compass Adjuster.

Compass Compensation, Tables of Deviation
and Residual Errors for Wooden, Iron
and Steel Vessels by Azimuths of the
Sun, Stars, Moon and other Planets.

SERVICE—DAY OR NIGHT.

All Adjustments Promptly and Accurately
executed. Estimates and Prices given upon
application. All work guaranteed to be ab-
solutely first-class.

Compasses Adjusted

For deviation, and deviation
tables supplied. Great facilities
for doing the work by day or
night.

John Maurice.

Office, 24-26 Market St., CHICAGO.
Residence, 1213 Albany Avenue.

THE IMPROVED ANNULAR STEAM JET FOR INDUCED DRAFT

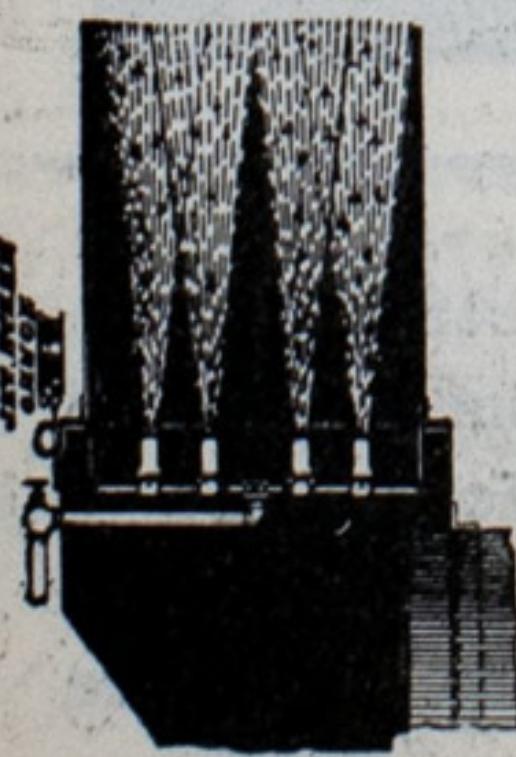
POWERFUL. ECONOMICAL.

67 in Use. 50 to 200 lbs. Pressure.

Cut on the right shows section of Jet Castings which
are attached to Spider in stack as shown in cut on
the left. 15 to 25% increase in power guaranteed.

All sizes 12" to 8 ft. have been installed.

H. Bloomsburg & Co.,
112 35th Street,
NEWPORT NEWS, VA.



Section of Stack.



Section of Jet.

M. A. HANNA & CO.

COAL, IRON ORE AND PIG IRON.

Steamboat Fuel at Ashtabula.

Large Supplies of Best Quality.

LIGHTER

carrying different grades
at all times.

MINERS AND SHIPPERS.

MAIN OFFICE, Perry-Payne Bldg., Cleveland, O.

Fuel scow with elevators and discharging
spouts. Storage of 600 tons. Discharges
150 tons an hour into steamers while
unloading cargo.

THE W. L. SCOTT COMPANY

ERIE, PA.

WHOLESALE DEALERS IN

Shamokin = Wilkesbarre ANTHRACITE
Youghiogheny, Mansfield, PITTSBURG

COALS

VESSEL FUELING

A SPECIALTY

by steam lighter or car dump,
at all hours. Electric light.

MAIN OFFICE:

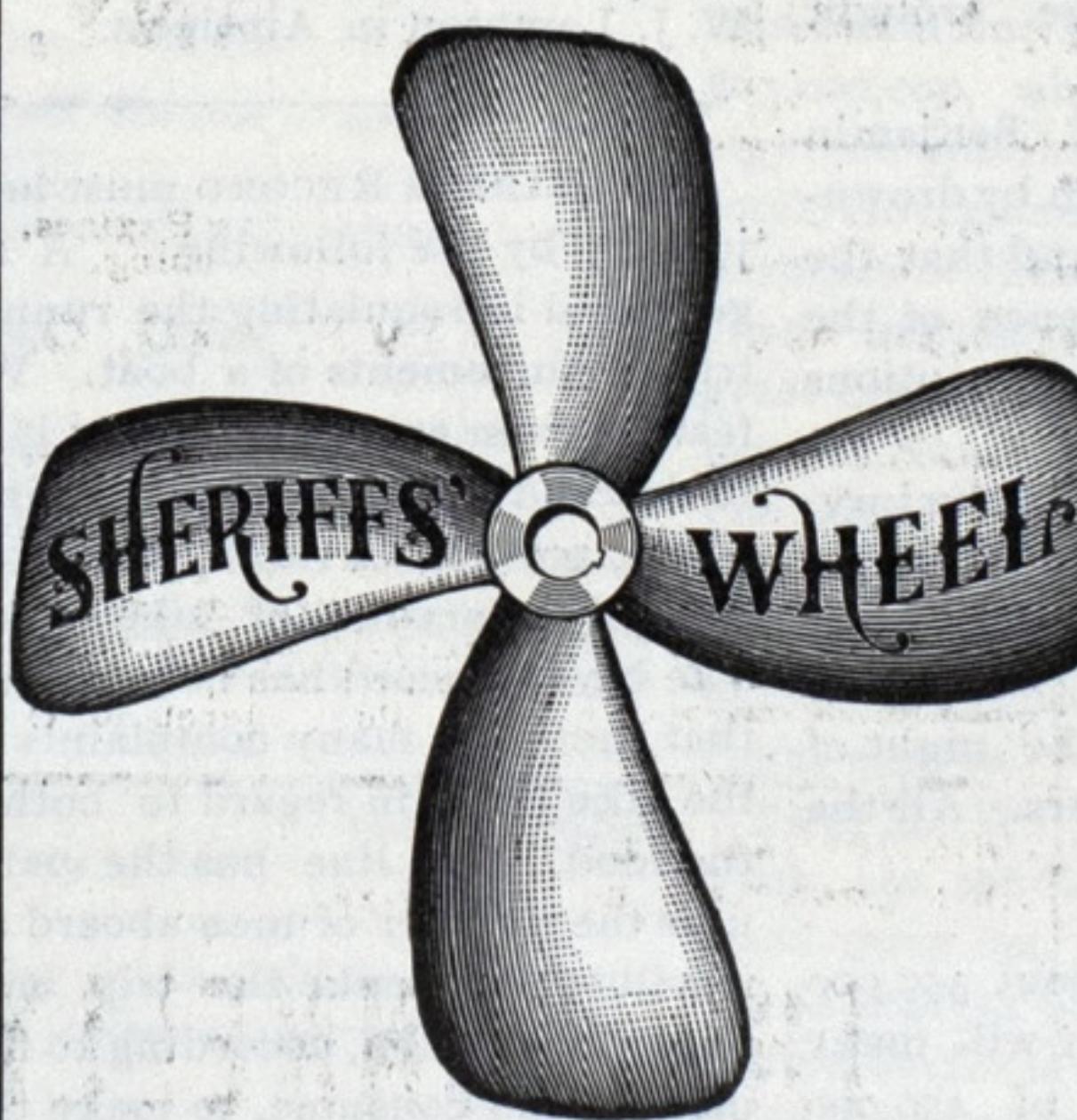
Scott Block. Long Distance Phone 440.

FUELING OFFICE:

Canal Dock. Long Distance Phone 320.

SHERIFFS MFG. CO.

ESTABLISHED 1854.



MILWAUKEE, WIS.

One Cent a Mile

to the Pan-American Exposition at Buffalo,
via the Nickel Plate Road, on May 15th and
29th. Train leaves Bellevue O., at 12:15
midnight, leaving Cleveland at 2:06 a. m. and
arriving at Buffalo at 7:35 a. m. Tickets are
good returning within 3 days on any one of
our Peerless Express Trains where scheduled
to stop. For rates and time of train at inter-
mediate stations see bill, call on nearest
agent or address C. A. ASTERLIN, T. P. A.,
Ft. Wayne, Ind., or E. A. AKERS, C. P. &
T. A., Cleveland, O.

49-21

JOHN C. JOLL

SHIP CARPENTER,
CALKER and
SPAR MAKER.

Jobbing of all kinds promptly attended to.
'PHONES { MAIN 523 L.
WEST 808 F.
Res. 1097 Franklin Ave. 63 Main St.
CLEVELAND, O.

If U Want a PUMP or SYPHON



Write to the E. W. Vanduzen Co.
of Cincinnati, O., for their cata-
log 76. They give you facts and
figures about their Steam Jet
Pumps, Syphons and Barge
Pumps. A postal will bring full
information by return mail free
of charge.

THE E. W. VANDUZEN CO.,
Cincinnati, O.

Nautical Schools.

Chicago Nautical School

1612 Masonic Temple,
CHICAGO.

W. J. WILSON,
(Late Lieutenant U. S. Navy),
Principal.

A full and complete course of instruction in lake and ocean navigation. Also special branches taught those desiring to qualify themselves for better positions in the marine service. Students taught by correspondence. Students may begin at any time. Send for circular.

Capt. Samuel W. Gould,

265 MARCY AVE., CLEVELAND.

Gives instructions in Ocean Navigation and prepares candidates for the examinations for Master and Pilots' Licenses, before the Local Steamboat Inspectors.

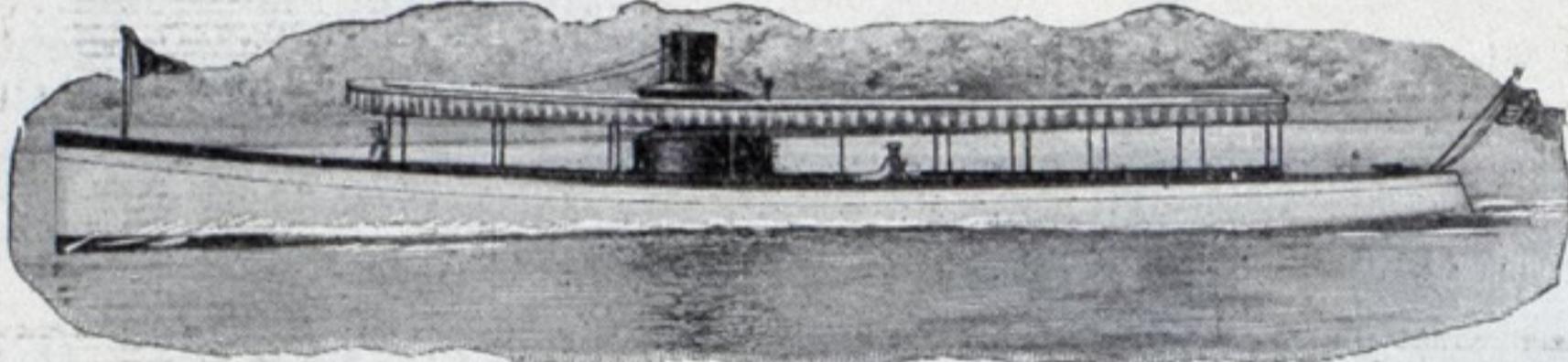
— TAKE —

Wade Park or Payne Ave. Car.

CONDENSERS.
BOILER SECTIONAL
WATER TUBE
BOILERS.
PROPELLER
WHEELS.

JOHN E. THROPP & SONS CO.,
TRENTON, N. J., U. S. A.

SINGLE,
COMPOUND
AND TRIPLE
EXPANSION
ENGINES.



MACHINERY COMPLETE FOR PLEASURE YACHTS, TUG BOATS AND LIGHT DRAUGHT PASSENGER BOATS

THE CHASE MACHINE COMPANY, ENGINEERS AND MACHINISTS.

MANUFACTURERS, UNDER THE CHASE PATENTS, OF

Fog Whistle Machines, Hoisting Engines, Steering Engines, Automatic Towing Engines, Power and Drop Hammers, and other Machinery. Engineers' Supplies and General Jobbing.

111 ELM STREET.

TELEPHONE, MAIN 994.

CLEVELAND, O.

PRACTICAL
MECHANICS.

Applied to the requirements of the sailor. By Thos. Mc-Kenzie. Illustrated; 12 mo.; cloth, \$1.50, by mail, prepaid. The Marine Record, Western Reserve Bldg., Cleveland, O.

JOHN DONNELLY, SR., PRES.
JOHN DONNELLY, JR., VICE PRES.

H. B. FOLGER, TREAS.
THOS. DONNELLY, SECY.

THE DONNELLY SALVAGE AND WRECKING CO., Ltd.

KINGSTON, ONT.

EXPERIENCED DIVERS, TUGS, STEAM PUMPS, ETC.,
SUPPLIED ON SHORTEST NOTICE.

MICHIGAN YACHT & POWER CO.

DETROIT.

1540 JEFFERSON AVE.

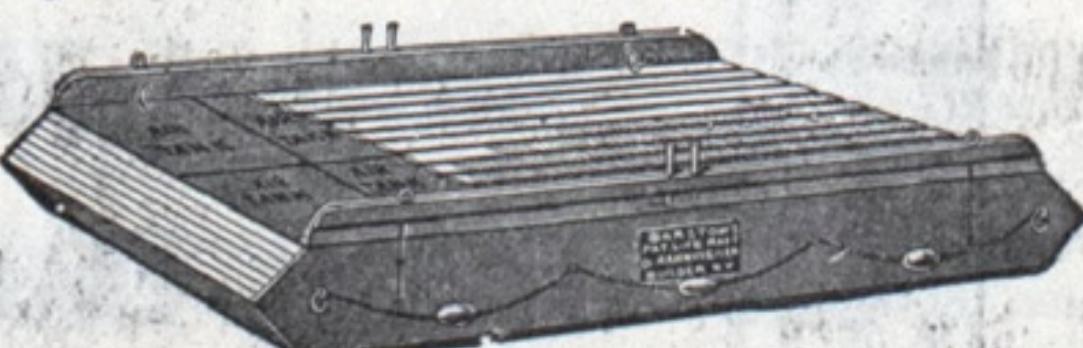
THE NICKEL PLATE ROAD.

Is the shortest line to Buffalo and the Pan-American Exposition. Rates are effective April 30th, 1901, on any one of our Peerless Trio of Daily Express Trains either going or returning. Write, wire 'phone or call on nearest agent, C. A. Asterlin, T. P. A., Ft. Wayne, Ind., or E. A. Akers, C. P. & T. A., Cleveland, O.

36-22



METALLIC
and
WOODEN
LIFE
BOATS.



Metallic Life Rafts, Marine Drags.

Manufacturer of Woolsey's Patent Life Buoy, which is the lightest, cheapest and most compact Life Raft known. Send for illustrated catalogue. Get our prices before buying elsewhere.

D. KAHNWEILER'S SONS 437 Pearl St., New York City.

IN PRACTICAL USE ON THE BEST AND LARGEST LAKE STEAMERS

Using all Types of Boilers and all Pressures of Steam.

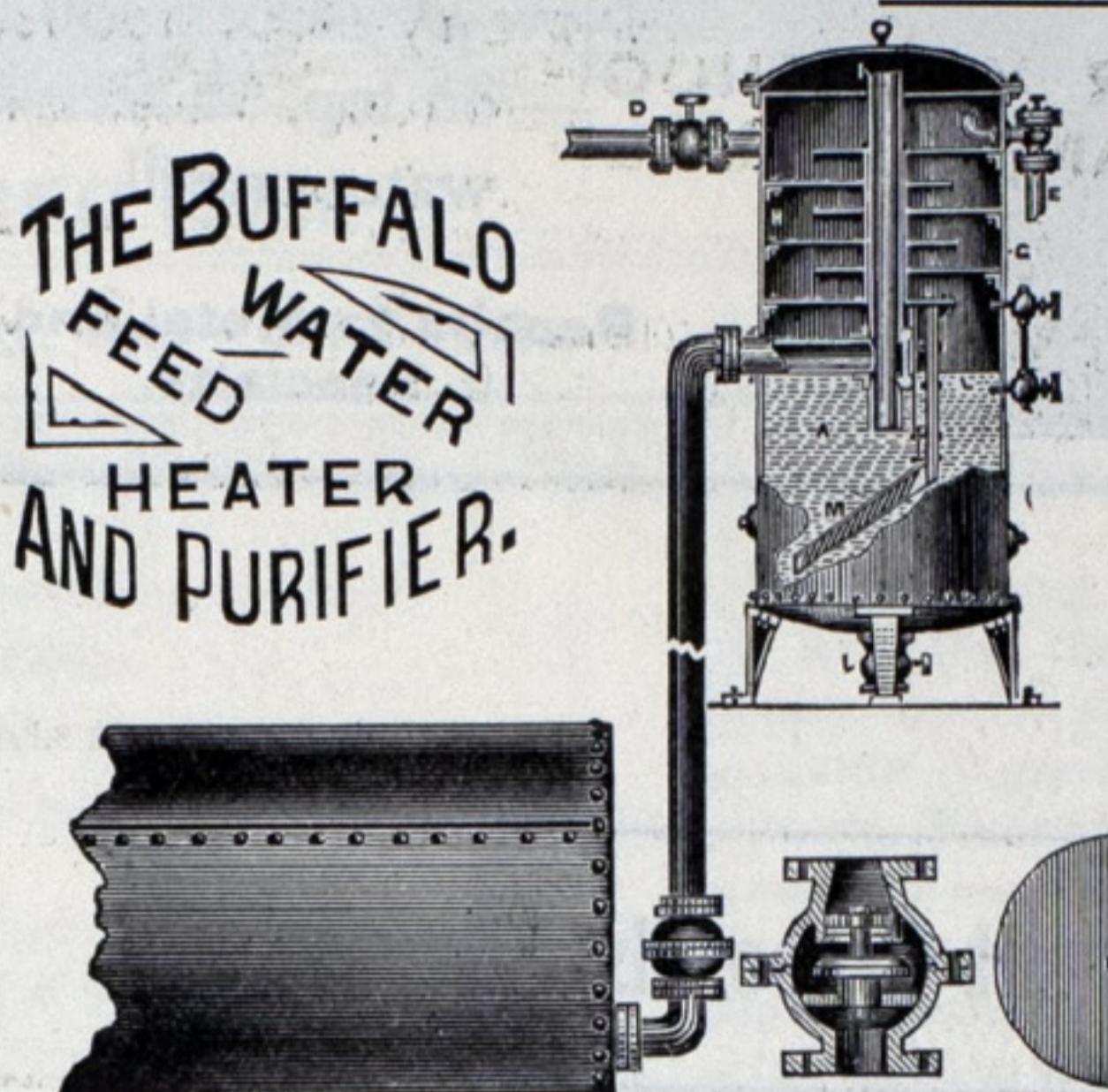
Every Purifier Warranted to Remove all Sediment or Scale-Forming Substance.

ROBERT LEARMONT,

PATENTEE,

100 WHITE BLDG., BUFFALO, N. Y.

SEND FOR CIRCULAR.



NAMES OF STEAMERS ON THE LAKES
USING THE BUFFALO FEED WATER
HEATER AND PURIFIER:

Zenith Transit Co.'s steamers Empire City, Crescent City, Zenith City, Superior City, Queen City, Pennsylvania and John W. Gates.

The Republic Iron Co.'s steamers America, Brazil, Thomas Maytham and Chili.

Mitchell Transportation Co.'s steamer Hendrick S. Holden.

Minnesota Iron Co.'s steamer Presque Isle.

American Steel Barge Co.'s steamer Alex. McDougall.

Lake Michigan & Lake Superior Transportation Co.'s steamer Manitou.

Bessemer Steamship Co.'s steamers S. F. B. Morse and Douglas Houghton.

American Transportation Co.'s steamers John Harper and Alex. Nimick.

Red Star Line's steamers Robert Mills and Wyoming.

Wilson Transit Line's steamers W. D. Rees and Andrew Carnegie.

And the steamer William R. Linn.

Standard Books

ON MARINE SUBJECTS.

NAVAL ARCHITECT'S AND SHIPBUILDER'S POCKET BOOK. Clement Mackrow. Formulae, rules and tables, and marine engineers' and surveyors' Handy Book of Reference. Fifth edition. 700 pages; pocket-book form. \$5.00.

A MANUAL OF MARINE ENGINEERING. A. E. Seaton. Designing, construction and working of marine machinery. \$6.00.

NAVAL ARCHITECTURE: A MANUAL ON LAYING OFF IRON AND STEEL VESSELS. Thos. H. Watson. Valuable for naval architects as well as beginners in ship yards. \$5.00.

RESISTANCE AND PROPULSION OF SHIPS. By William F. Durand, Principal of the School of Marine Construction, Cornell University. 431 pages, 116 figures. \$5.00.

PRACTICAL ADVICE FOR MARINE ENGINEERS. This is a valuable little book, with 64 illustrations. By Charles W. Roberts. \$1.00.

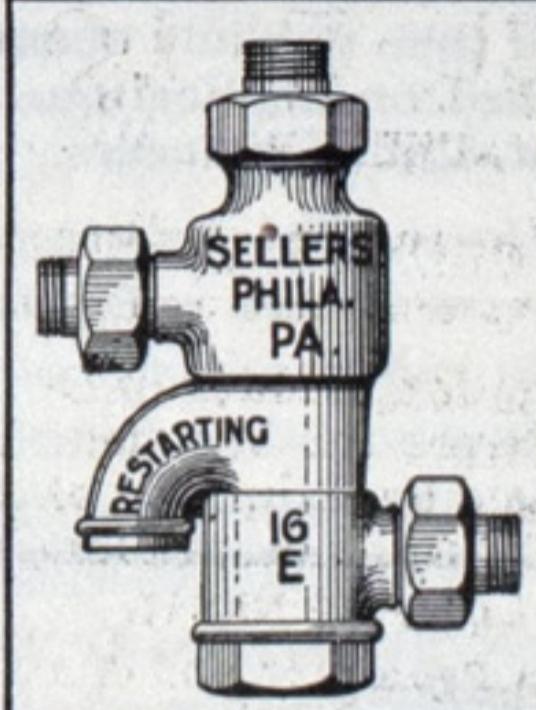
MODEL ENGINES AND SMALL BOATS. N. M. Hopkins. New methods of engine and boiler making; ship design and construction; fifty illustrations. \$1.25.

Sent to any address, prepaid, on receipt of price.

The Marine Record Publishing Co.

CLEVELAND, OHIO.

Sellers' Restarting Injector



A strictly first class machine at moderate cost.

Perfectly automatic, has wide range of capacities, and raises water promptly with hot or cold pipes.

Very simple, has few parts and is easily repaired.

All parts interchangeable, made of the best bronze, and the workmanship is perfect. Send for special catalogue descriptive of this Injector.

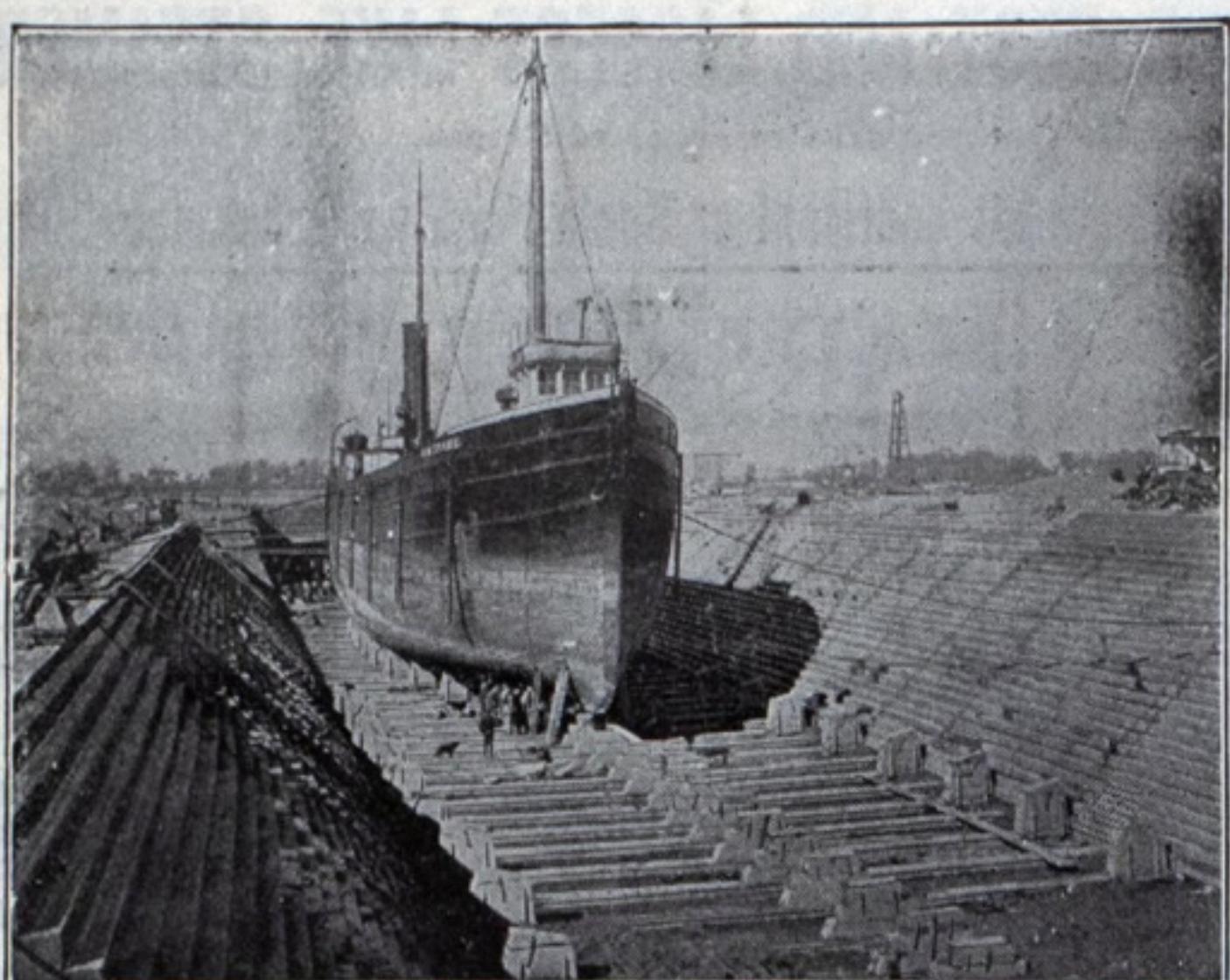
JENKINS BROTHERS, Selling Agents

NEW YORK, BOSTON, PHILA., CHICAGO

A. J. MORSE & SON.



140 CONGRESS ST. BOSTON.



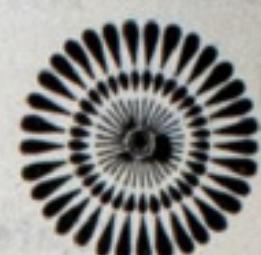
Craig Ship Building Co.

TOLEDO, OHIO.

New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

Repairs to Metal and Wooden Ships a Specialty.

Metal and Wooden Ship Builders.



Government Proposals.

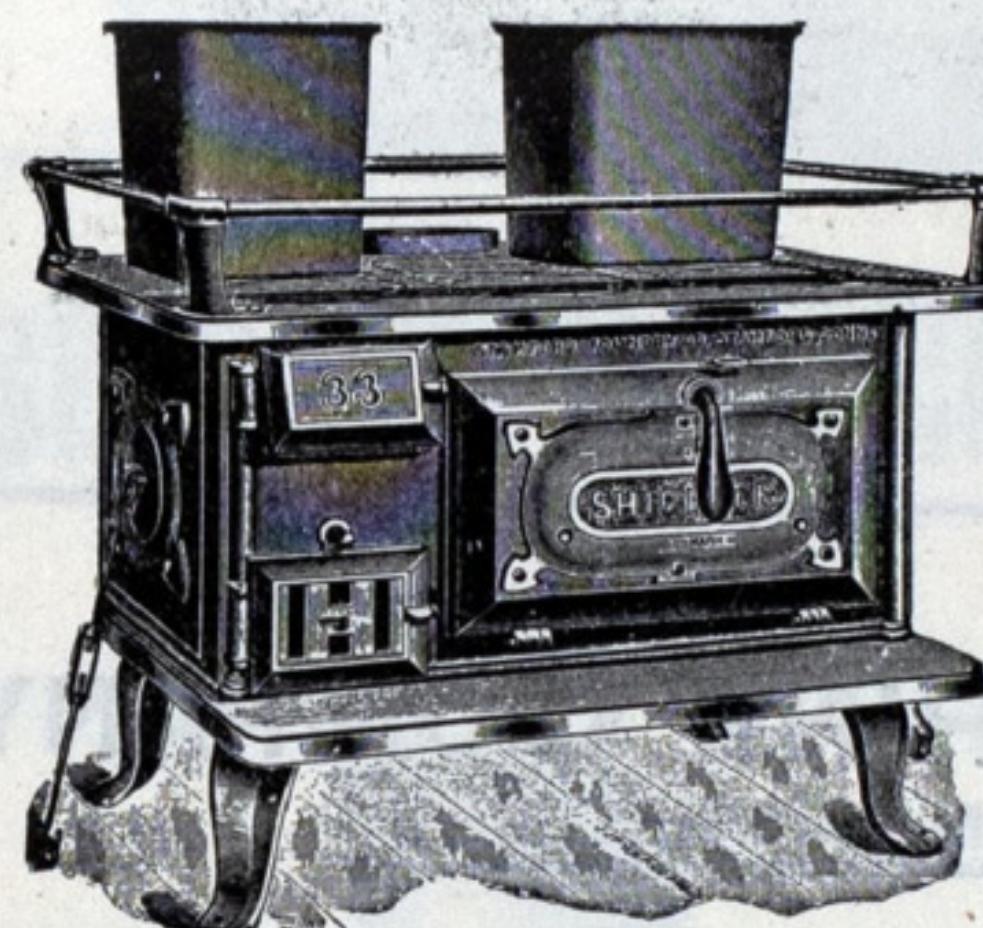
U. S. ENGINEER OFFICE, Custom House, Cincinnati, O., April 24, 1901. Sealed proposals for hire of one or more dredging plants, each consisting of one dredge, one towboat, and three dump scows, for use on Ohio river, will be received here until 2 p.m., May 29, 1901, and then publicly opened. Information furnished on application. WM. H. BIXBY, Maj., Engrs. 18-21

TREASURY DEPARTMENT, Office of General Superintendent U. S. Life-Saving Service, Washington, D. C., May 4, 1901. Sealed proposals will be received at this office until 2 o'clock p. m. of Friday, the 31st day May, 1901, and then publicly opened, for furnishing supplies required for the use of the Life-Saving Service for the fiscal year ending June 30, 1902; the supplies to be delivered at such points in New York City, Grand Haven, Mich., and San Francisco, Cal., as may be required and in the quantities named in the specifications. The supplies needed consist of Beds and Bedding, Blocks and Sheaves, Cordage, Crockery, Furniture, Hardware, Lamps, Lanterns, etc.; Lumber, Medicines, etc.; Paints, Oils, etc.; Ship Chandlery, Stoves, etc.; Tools and Miscellaneous Articles; all of which are to be enumerated in the specifications attached to the form of bid, etc., which may be obtained upon application to this office, or to the Inspector of Life-Saving Stations, 17 State St., New York City; Superintendent Twelfth Life-Saving District, Grand Haven, Mich., and Superintendent Thirteenth Life-Saving District, New Appraiser's Stores, San Francisco, Cal. Envelopes containing proposals should be addressed to the "General Superintendent U. S. Life-Saving Service, Washington, D. C." and marked on the outside "Proposal for annual supplies." The right is reserved to reject any or all bids, and to waive defects, if deemed for the interests of the Government. S. I. KIMBALL, General Superintendent. 19-20

U. S. ENGINEER OFFICE, Jones Building, Detroit, Mich., May 6, 1901. Sealed proposals for dredging and other work required for removing obstructions to navigation in main Ship Channel between head of St. Clair and mouth of Detroit rivers, will be received here until 12 noon (standard time) May 28, 1901, and then publicly opened. Information furnished on application. G. J. LYDECKER, Lieut.-Col., Engineers. 19-21

Anywhere and Return for \$1.00.

The Nickel Plate Road announces to the public that on Sunday, May 5th, it will inaugurate its usual summer Sunday excursions for parties of five or more traveling together on one ticket between any two stations on its line within a distance of 100 miles; the cost for which for each individual will be but \$1.00. Organize your parties of five or more and enjoy a Sunday outing on the Nickel Plate Road. Write, wire, 'phone or call on nearest agent, or address E. A. AKERS, C. P. & T. A., Cleveland O. 57-19



SHIPMATE RANGES.

We make vessel ranges of various sizes, from the large two-oven Shipmate Range down to the two-hole Yacht Range.

The Tinnerman Steel Range Co., 797-803 Lorain Street, Cleveland, have a full assortment of these ranges, and can fill orders for any size. They are sold also by

Robt. C. Bialy, 923-925 Water St., Bay City, Mich.
Soo Hardware Co., Sault Ste. Marie, Mich.

THE STAMFORD FOUNDRY COMPANY,
STAMFORD, CONN.

Established 1830.

SCOTT'S COAST PILOT FOR THE LAKES.

PRICE \$1.50.

FOR SALE BY THE MARINE RECORD, WESTERN RESERVE BLDG., CLEVELAND, O.

W. S. JENKS, President.

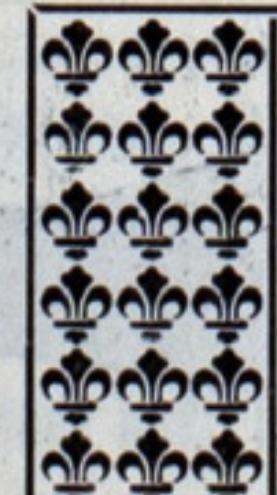
O. L. JENKS, Vice Pres. and Treas.

A. M. CARPENTER, Sec. and Gen'l Mgr.

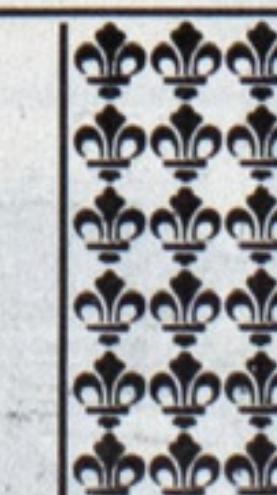
The Jenks Ship Building Co.

Office and Machine Shops
Fourth Street.

Yards
Foot of Lincoln Ave.



Steel and Wood Ship Builders.
Marine Engines and Boilers.



Port Huron, Mich.

—STEAM WINDLASSES CAPSTANS AND STEERING APPARATUS—